






ILLUMINATED SWITCH

	Series	Features	Page
	ML6	Tact Switch+LED	6
	TL(L)A-7	LED, Right Angle	7
	TL(L)-6	LED	9
	KTL	Cap Accessories for TLL-6	11
	TML-3	LED, SMT	12

ML6 SERIES

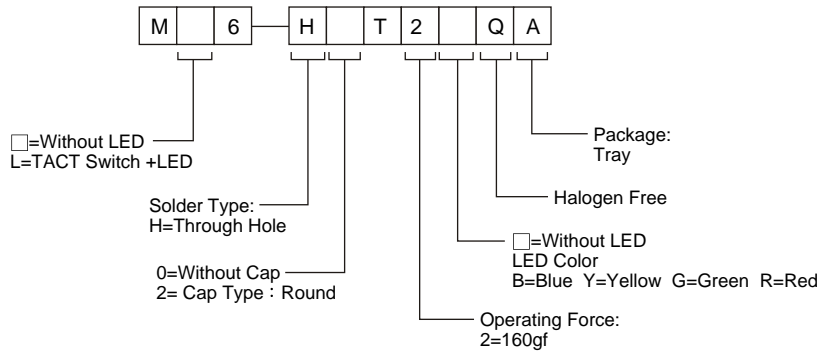
Tact Switch +LED Type



NEW



HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force: 160±50gf
Stroke: 0.25±0.10 mm

ENVIRONMENTAL

Operation Temperature Range : -40°C to +85°C
Storage Temperature Range : -40°C to +85°C

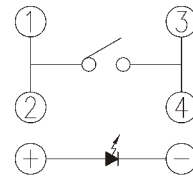
ELECTRICAL

Electrical Life: 300,000 cycles.
Rating: 50mA, 12VDC

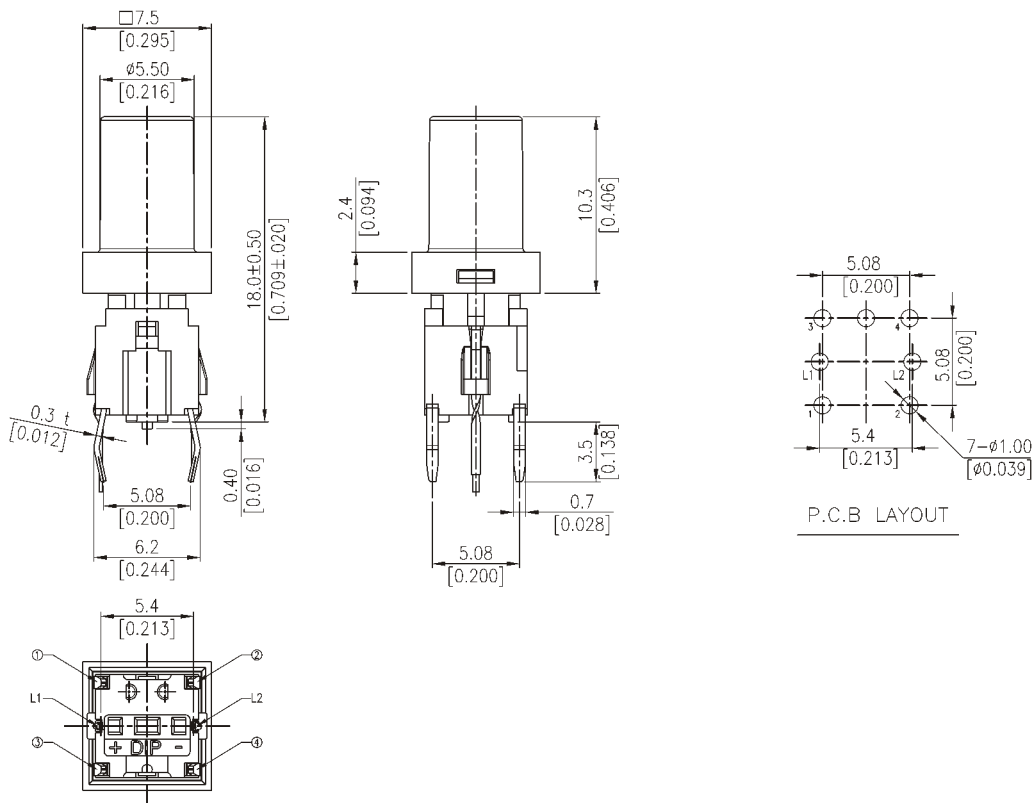
PACKAGE

100 pcs/tray

CIRCUIT



ML6



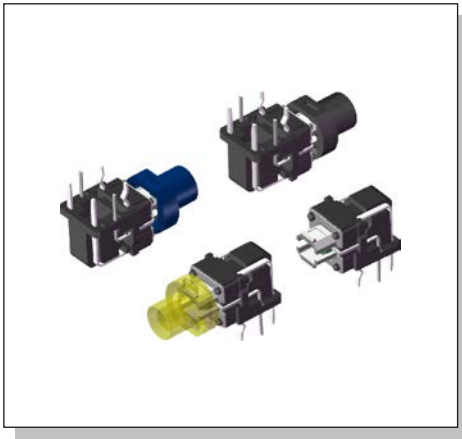
ILLUMINATED SWITCH

TLLA-7 SERIES

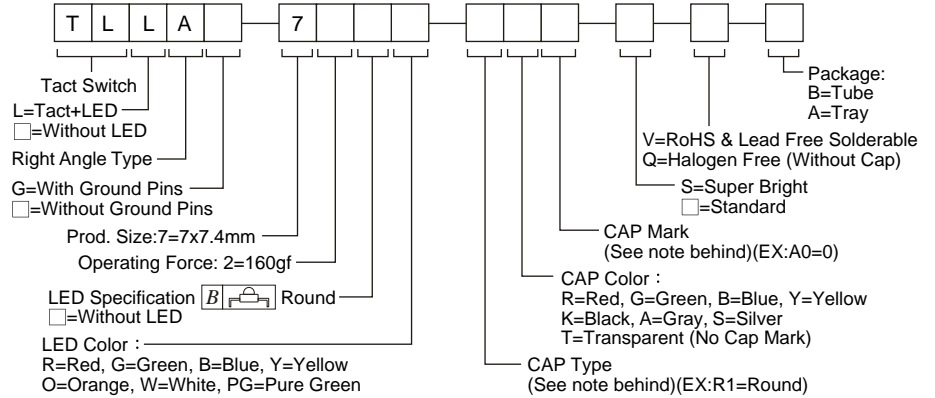
Tact Switch +LED Type



ILLUMINATED SWITCH



HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force: 160±50gf
 Stroke: 0.20±0.10 mm

ENVIRONMENTAL

Operation Temperature Range : -40°C to +85°C
 Storage Temperature Range : -40°C to +85°C

ELECTRICAL

Electrical Life: 500,000 cycles.
 Rating: 50mA, 12VDC

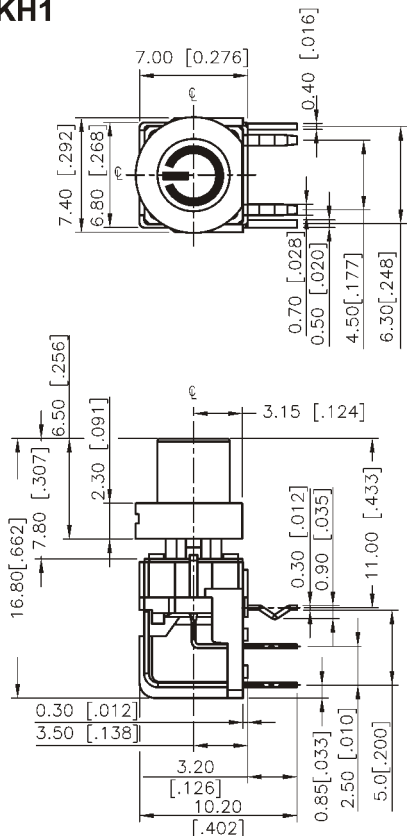
PACKAGE

TLLA-7□-A: 100 pcs/tray
 TLLA-7□-B: 64 pcs/tube

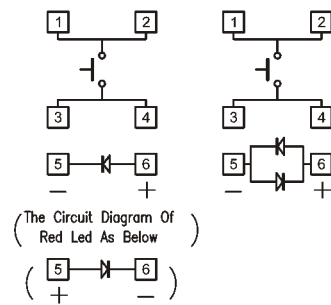
CAP MARK

	0	1	2	3	4	5	6	7	8	9
A	0	1	2	3	4	5	6	7	8	9
B	A	B	C	D	E	F	G	H	I	J
C	K	L	M	N	O	P	Q	R	S	T
D	U	V	W	X	Y	Z				
E	IN 1	IN 2								
F		F1	F2	F3	F4	F5	F6	F7	F8	F9
G	F10	F11	F12	F13	F14					
H	O	⓪	Ⓛ	Ⓜ	Ⓝ	●				

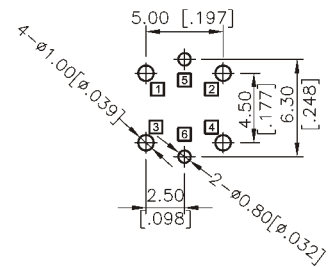
TLLA-72□□-R1KH1



SCHEMATIC



P.C.B. LAYOUT



COLOR OF LED

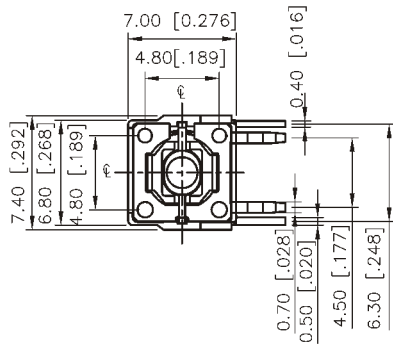
CODE	ONE COLOR	TWO COLOR
G	Green	(RG) (GY)
PG	Pure Green	(GB) (RY)
R	Red	(RB) (BY)
Y	Yellow	(APG)
B	Blue	

TLLA-7 SERIES

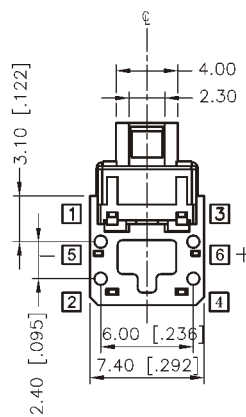
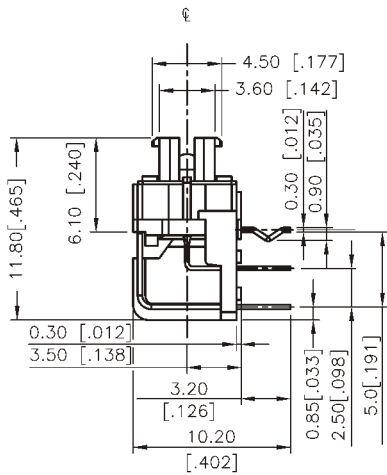
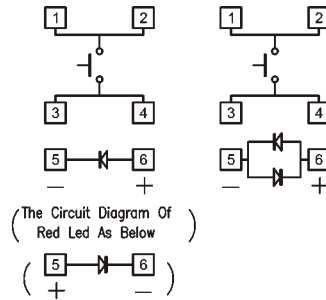
Tact Switch +Led Type



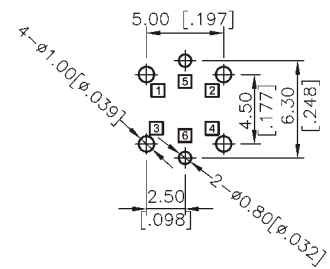
TLLA-72□□



SCHEMATIC



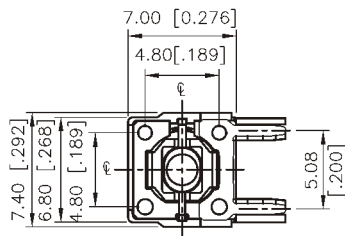
P.C.B. LAYOUT



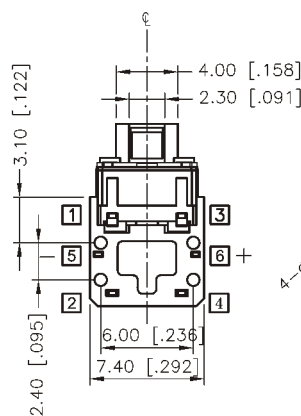
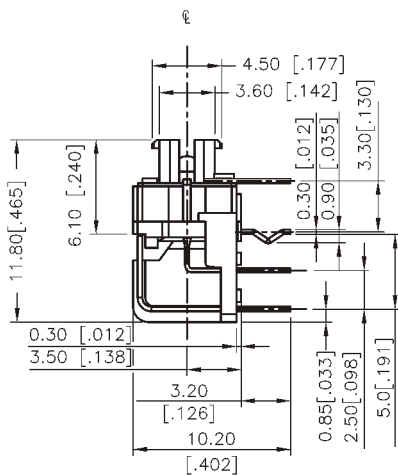
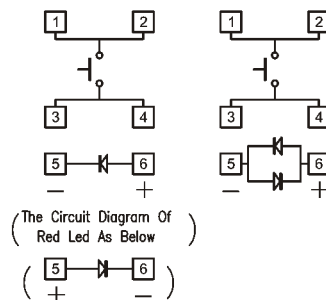
COLOR OF LED

CODE	ONE COLOR	TWO COLOR
G	Green	(RG) (GY)
PG	Pure Green	(GB) (RY)
R	Red	(RB) (BY)
Y	Yellow	(APG)
B	Blue	

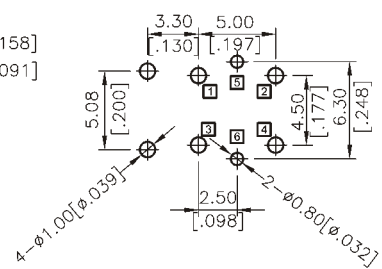
TLLAG-72□□



SCHEMATIC



P.C.B. LAYOUT



COLOR OF LED

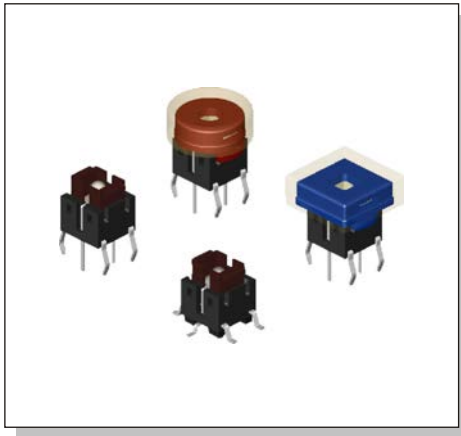
CODE	ONE COLOR	TWO COLOR
G	Green	(RG) (GY)
PG	Pure Green	(GB) (RY)
R	Red	(RB) (BY)
Y	Yellow	(APG)
B	Blue	

TL(L)-6 SERIES

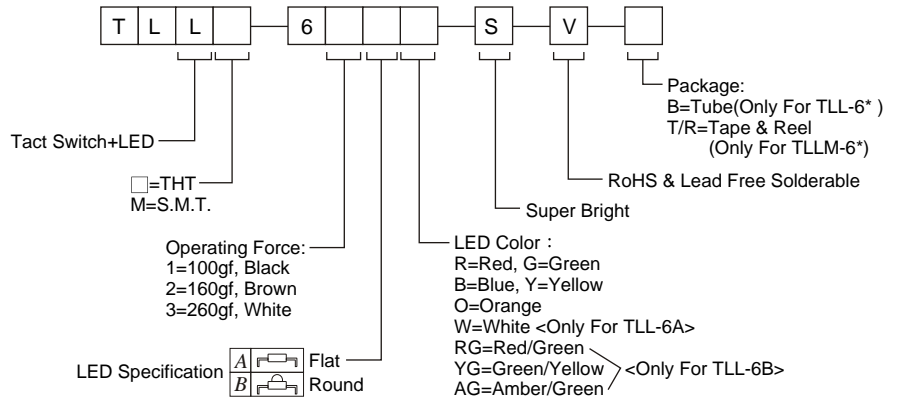
Tact Switch +LED Type



ILLUMINATED SWITCH



HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force: 100±50gf TL(L)-61
 160±50gf TL(L)-62
 260±50gf TL(L)-63

Stroke: 0.20±0.10 mm

ENVIRONMENTAL

Operation Temperature Range : -25°C to +70°C
 Storage Temperature Range : -30°C to +80°C

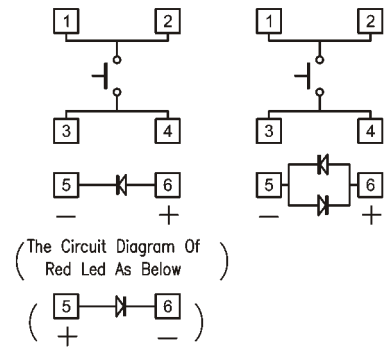
ELECTRICAL

Electrical Life: 200,000 cycles.
 Rating: 50mA, 12VDC

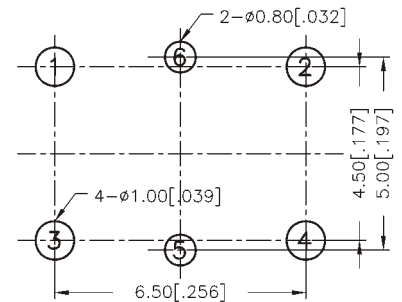
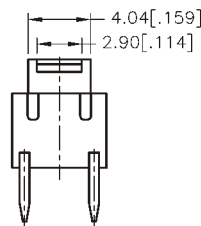
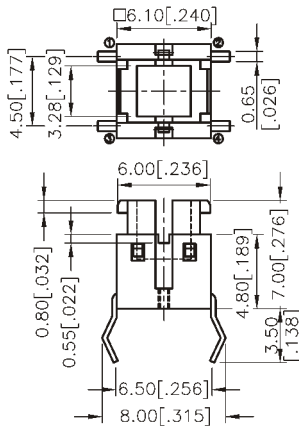
PACKAGE

Tube: 75 pcs/tube
 Tape & Reel: 500 (Only for TLLM-6)

CIRCUIT

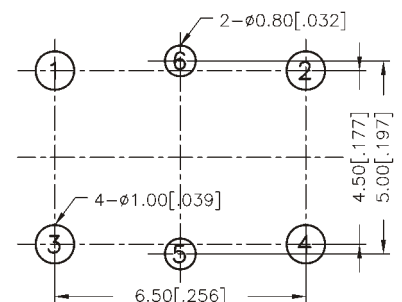
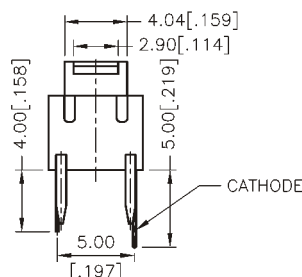
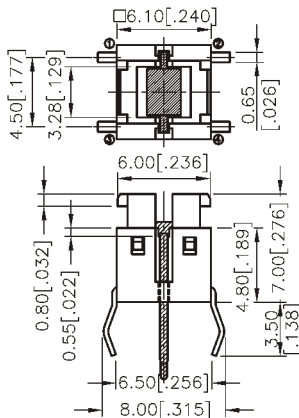


TL-6



P.C.B. LAYOUT

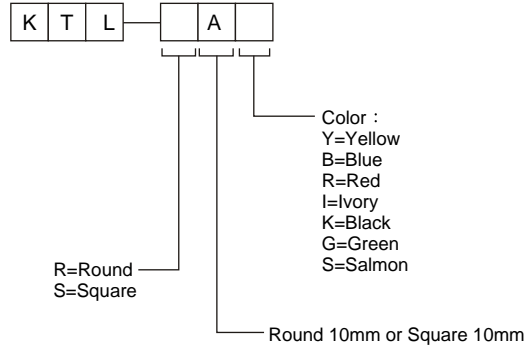
TLL-6A



P.C.B. LAYOUT

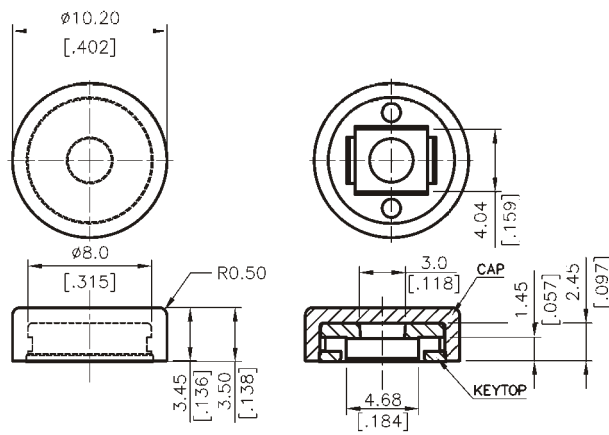


HOW TO ORDER

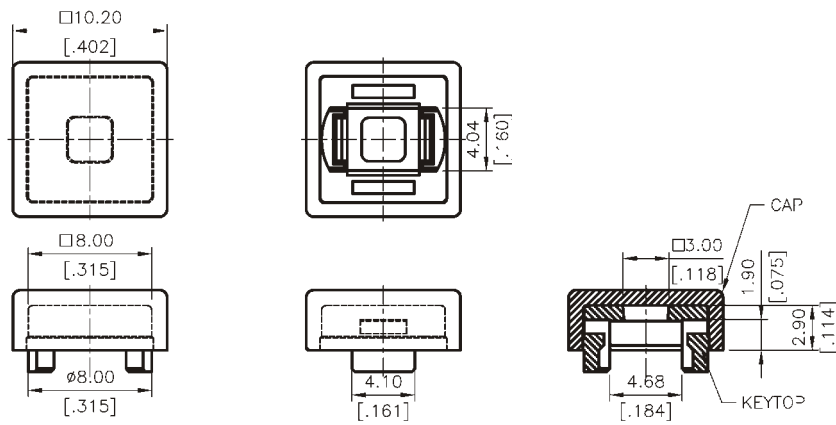


* PACKAGE: 500 pcs/bag

KTL-RA

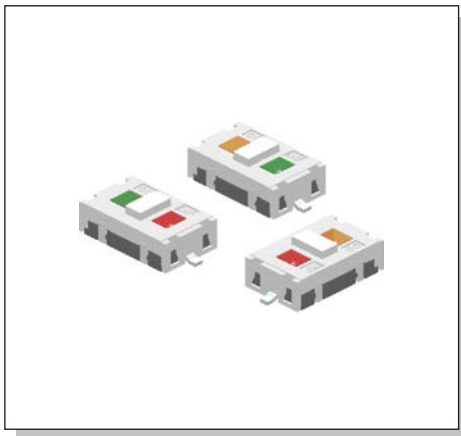


KTL-SA

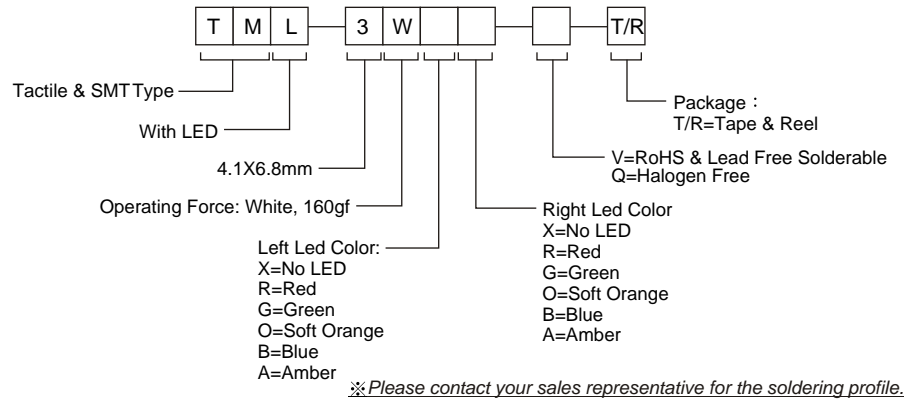


TML-3 SERIES

Tact Switch SMT + LED Type



HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force: 160+80gf/-30gf
 Stroke : 0.20±0.10mm

ENVIRONMENTAL

Operation Temperature Range : -20°C to +70°C
 Storage Temperature Range : -30°C to +80°C

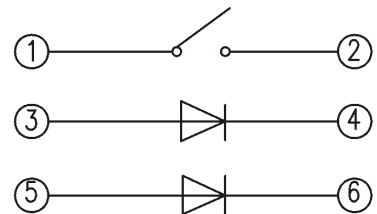
ELECTRICAL

Electrical Life: 50,000 cycles.
 Rating: 50mA, 12VDC

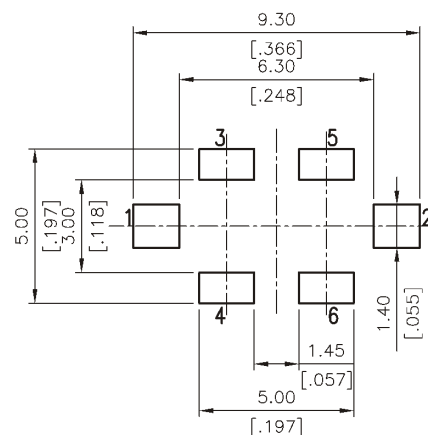
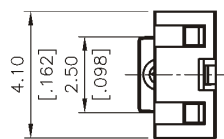
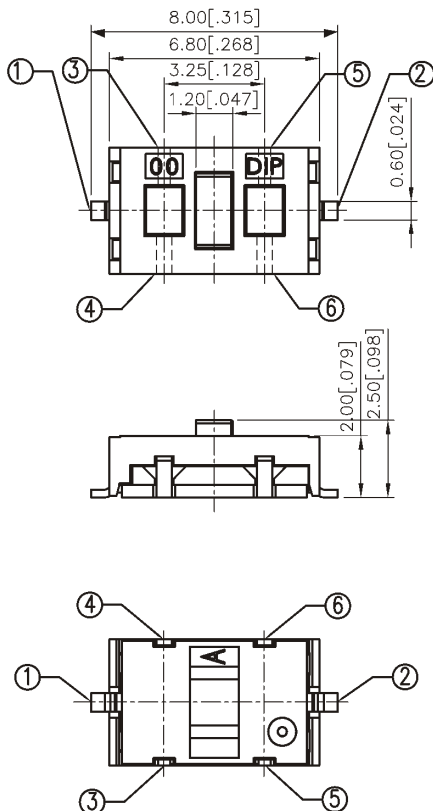
PACKAGE

Tape & Reel: 3000 pcs/reel

CIRCUIT



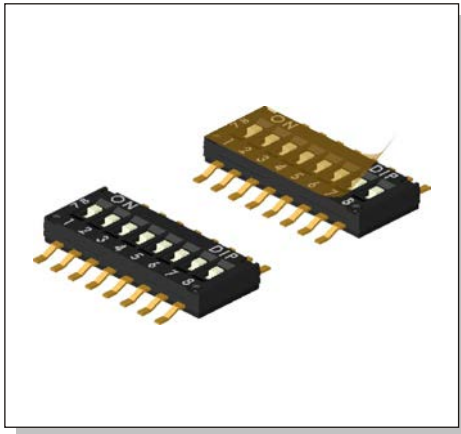
TML-3



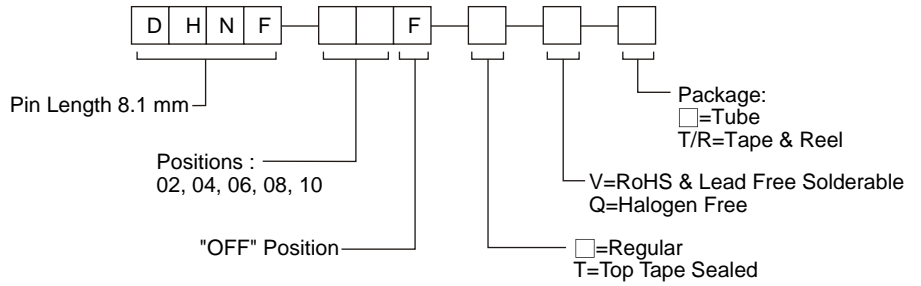
P.C.B. LAYOUT

DIP SWITCH

Series	Features	Page	
	DHNF	Half Pitch (H:1.6mm)	14
	DHN	Half Pitch (H:1.6mm)	15
	DHA	Half Pitch (H:2.2mm)	16
	HDS	Half Pitch (H:2.3mm)	17
	EM(R), EI(R), ES(R), EJ(R)	End Stackable	18
	DM(R), DJ(R), DL(R)	SMT	21
	NPI, NPM	Piano type	23
	EPI, EPM	End Stackable Piano type	25
	NDI(R)	Through Hole	27
	DS(R)	Slide	28
	DP(L)	Piano	29
	DA	Right Angle	30
	SIP	Single in Line	31
	TII(R), TIM(R)	Tri-State Low Profile type	33
	TDS	Tri-State	35



HOW TO ORDER



Precaution : For quality assurance, please operate actuators carefully as per specification.

SPECIFICATION

MECHANICAL

Operation Force: 500gf
 Stroke: 0.6mm

ENVIRONMENTAL

Operation Temperature Range: -40°C to +85°C.
 Storage Temperature Range: -40°C to +85°C.

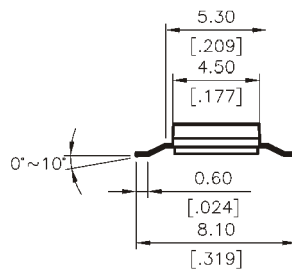
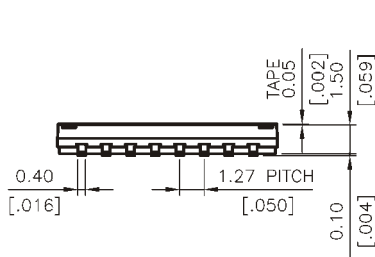
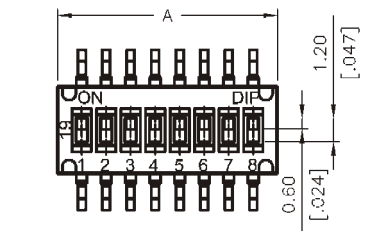
ELECTRICAL

Electrical Life: 1000 operation cycles
 Non-Switching Rating: 100mA, 50VDC.
 Switching Rating: 25mA, 24VDC.

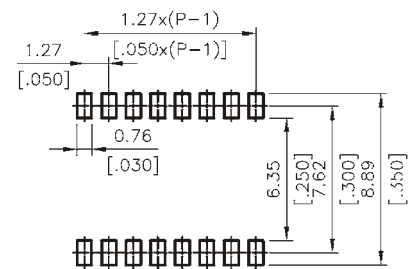
PACKAGE

DHNF-02(-T): 125 pcs/tube
 DHNF-04(-T): 75 pcs/tube
 DHNF-06(-T): 54 pcs/tube
 DHNF-08(-T): 40 pcs/tube
 DHNF-10(-T): 33 pcs/tube
 Tape and Reel: DHNF series: 2500 pcs/reel

DHNF

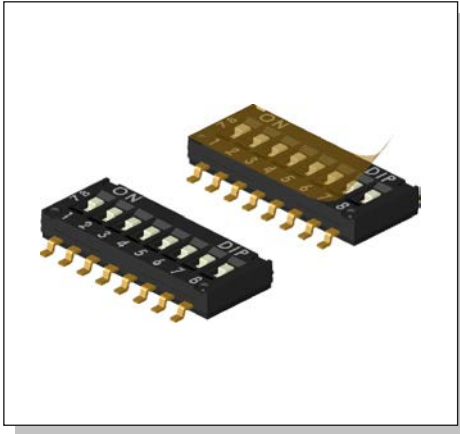


DHNF-10	10	13.93[.548]
DHNF-08	8	11.39_.448]
DHNF-06	6	8.85[.348]
DHNF-04	4	6.31[.248]
DHNF-02	2	3.77[.148]
PROD. NO.	NO. OF POS.	DIM. A

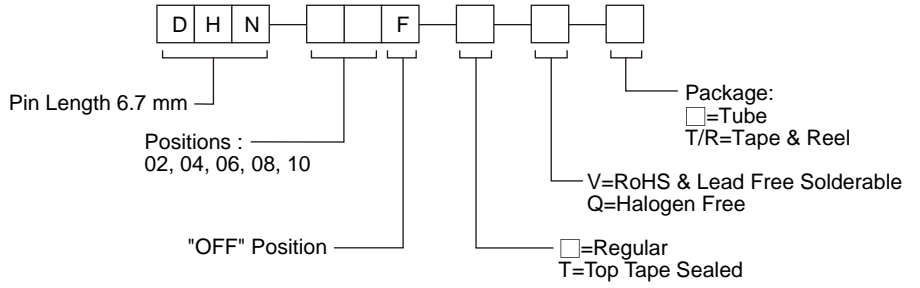


P.C.B. LAYOUT

DIP SWITCH



HOW TO ORDER



Precaution : For quality assurance, please operate actuators carefully as per specification.

SPECIFICATION

MECHANICAL

Operation Force: 500gf
 Stroke: 0.6mm

ENVIRONMENTAL

Operation Temperature Range: -40°C to +85°C.
 Storage Temperature Range: -40°C to +85°C.

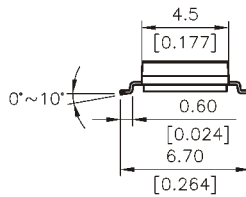
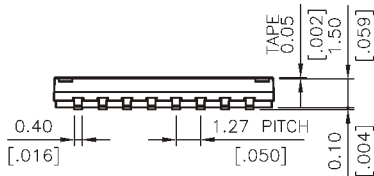
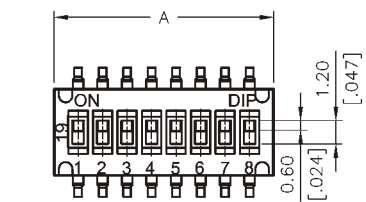
ELECTRICAL

Electrical Life: 1000 operation cycles
 Non-Switching Rating: 100mA, 50VDC.
 Switching Rating: 25mA, 24VDC.

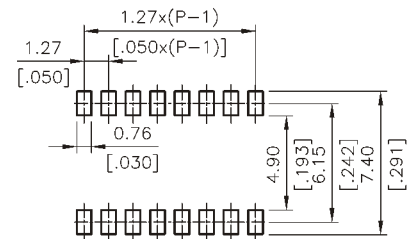
PACKAGE

DHN-02(-T): 125 pcs/tube
 DHN-04(-T): 75 pcs/tube
 DHN-06(-T): 54 pcs/tube
 DHN-08(-T): 40 pcs/tube
 DHN-10(-T): 33 pcs/tube
 Tape and Reel: DHN series: 4000 pcs/reel

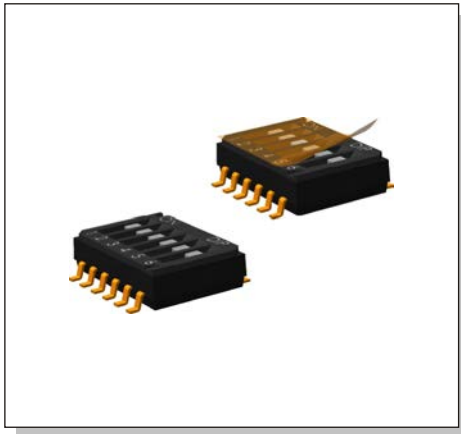
DHN



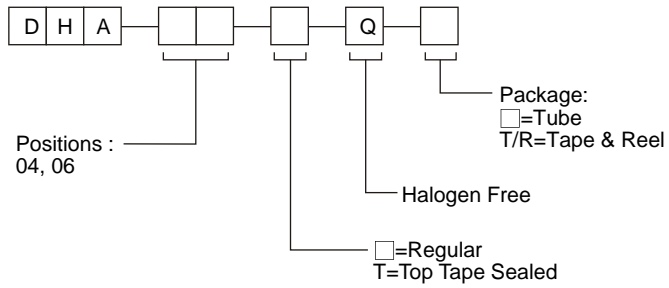
DHN-10	10	13.93[.548]
DHN-08	8	11.39[.448]
DHN-06	6	8.85[.348]
DHN-04	4	6.31[.248]
DHN-02	2	3.77[.148]
PROD. NO.	NO. OF POS.	DIM. A



P.C.B. LAYOUT



HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force: 500gf
 Stroke: 0.8mm

ENVIRONMENTAL

Operation Temperature Range: -40°C to +85°C.
 Storage Temperature Range: -40°C to +85°C.

ELECTRICAL

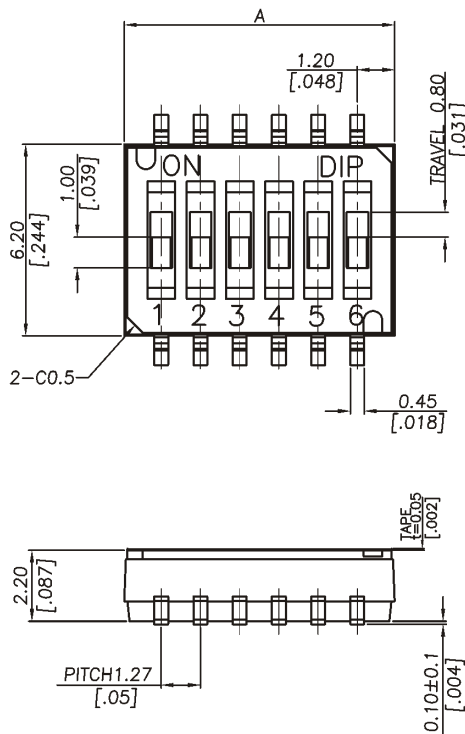
Electrical Life: 2,000 operation cycles
 Non-Switching Rating: 100mA, 50VDC.
 Switching Rating: 25mA, 24VDC.

PACKAGE

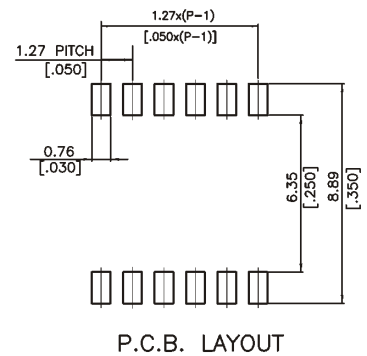
To be confirmed.



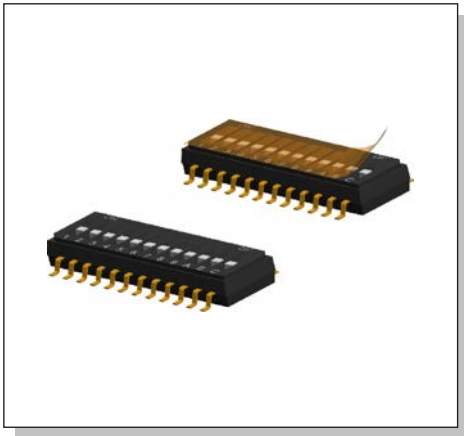
DHA



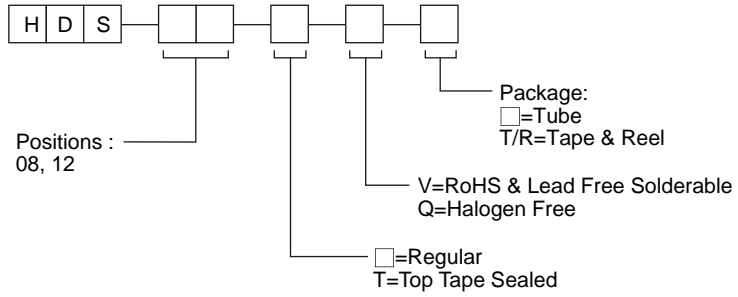
DHA-04Q	4	6.21 [.244]
DHA-06Q	6	8.75 [.344]
PROD.NO.	NO. OF POS	DIM A



DIP SWITCH



HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force: 600gf
Stroke: 0.6mm

ENVIRONMENTAL

Operation Temperature Range: -20°C to +70°C.
Storage Temperature Range: -40°C to +85°C.

ELECTRICAL

Electrical Life: 2,000 operation cycles
Non-Switching Rating: 100mA, 50VDC.
Switching Rating: 25mA, 24VDC.

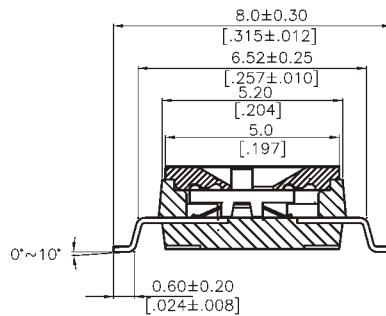
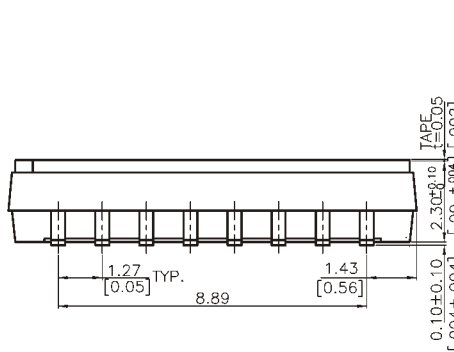
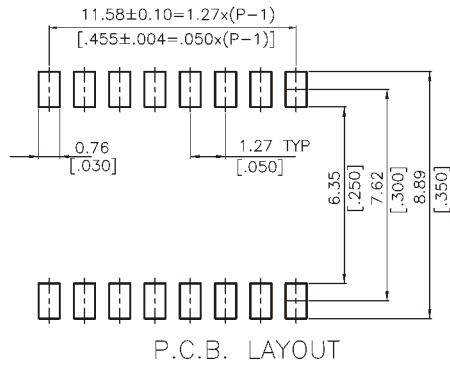
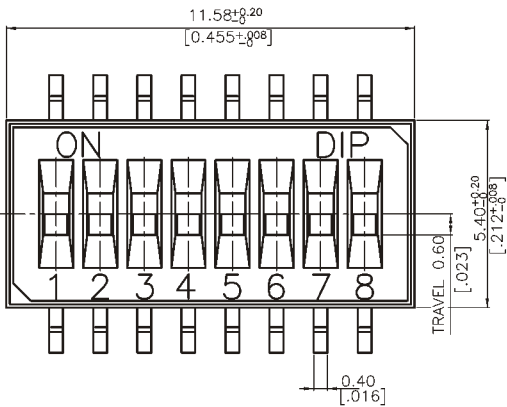
PACKAGE

1000 pcs/reel
HDS-08: 40 pcs/tube
HDS-12: 27 pcs/tube

SCHEMATIC(TYP.)

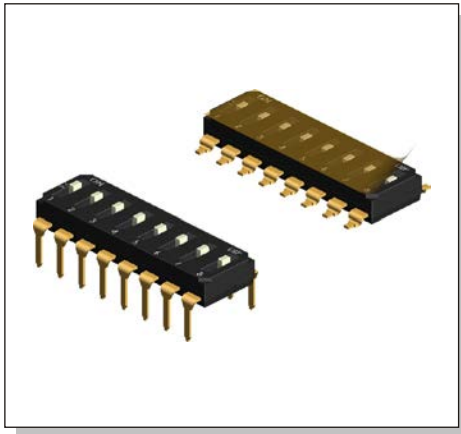


HDS

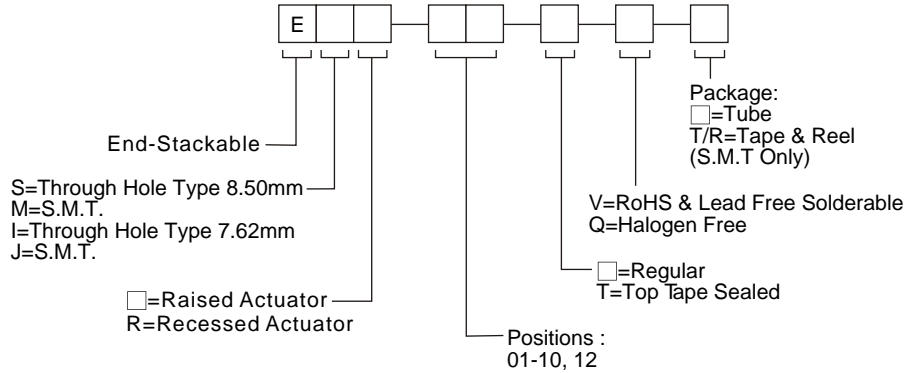


EM(R), EI(R) & ES(R), EJ(R) SERIES

End Stackable / SMT & Through Hole Type



HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force: 1,000gf max.
Stroke: 1.0 mm

ENVIRONMENTAL

Operation Temp: -20°C to +85°C
Storage Temperature: -40°C to +85°C

ELECTRICAL

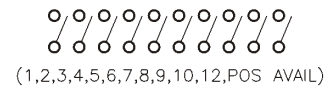
Electrical Life: 2,000 cycles.
Switching Rating: 25mA, 24VDC.

PACKAGE

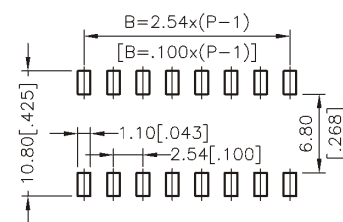
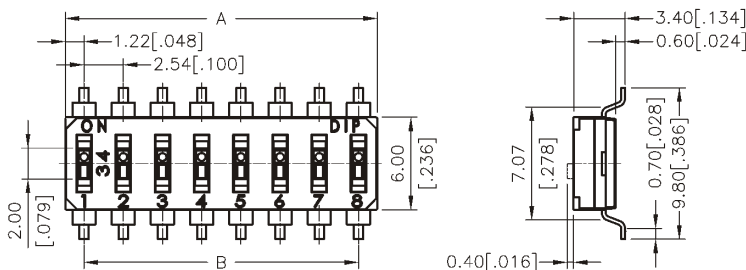
- EM(R)/EI(R)/ES(R)-01: 194 pcs/tube
- EM(R)/EI(R)/ES(R)-02: 95 pcs/tube
- EM(R)/EI(R)/ES(R)-03: 63 pcs/tube
- EM(R)/EI(R)/ES(R)/EJ(R)-04: 47 pcs/tube
- EM(R)/EI(R)/ES(R)-05: 38 pcs/tube
- EM(R)/EI(R)/ES(R)-06: 31 pcs/tube
- EM(R)/EI(R)/ES(R)-07: 27 pcs/tube
- EM(R)/EI(R)/ES(R)/EJ(R)-08: 23 pcs/tube
- EM(R)/EI(R)/ES(R)-09: 21 pcs/tube
- EM(R)/EI(R)/ES(R)/EJ(R)-10: 19 pcs/tube
- EM(R)/EI(R)/ES(R)-12: 15 pcs/tube
- EM(R)-01~10, 12: 900 pcs/reel
- EJ(R)-02~10, 12: 900 pcs/reel

CIRCUIT

SCHEMATIC(TYP.)



EM(R)



P.C.B. LAYOUT

EM-12 EMR-12	12	30.38[1.196]	27.94[1.100]
EM-10 EMR-10	10	25.30[.996]	22.86[.900]
EM-09 EMR-09	9	22.76[.896]	20.32[.800]
EM-08 EMR-08	8	20.22[.796]	17.78[.700]
EM-07 EMR-07	7	17.68[.696]	15.24[.600]
EM-06 EMR-06	6	15.14[.596]	12.70[.500]
EM-05 EMR-05	5	12.60[.496]	10.16[.400]
EM-04 EMR-04	4	10.06[.396]	7.62[.300]
EM-03 EMR-03	3	7.52[.296]	5.08[.200]
EM-02 EMR-02	2	4.98[.196]	2.54[.100]
EM-01 EMR-01	1	2.44[.096]	---
PROD. NO.	NO. OF POS.	DIM. A	DIM. B

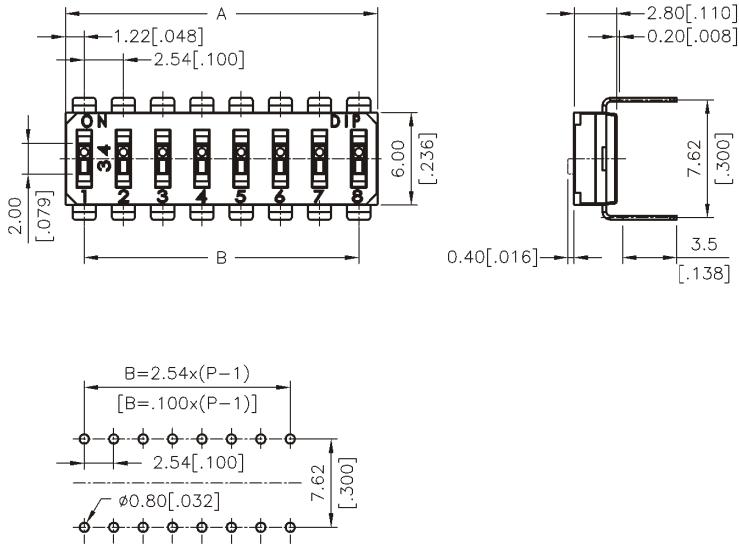
EM(R), EI(R) & ES(R), EJ(R) SERIES

End Stackable / SMT & Through Hole Type



DIP SWITCH

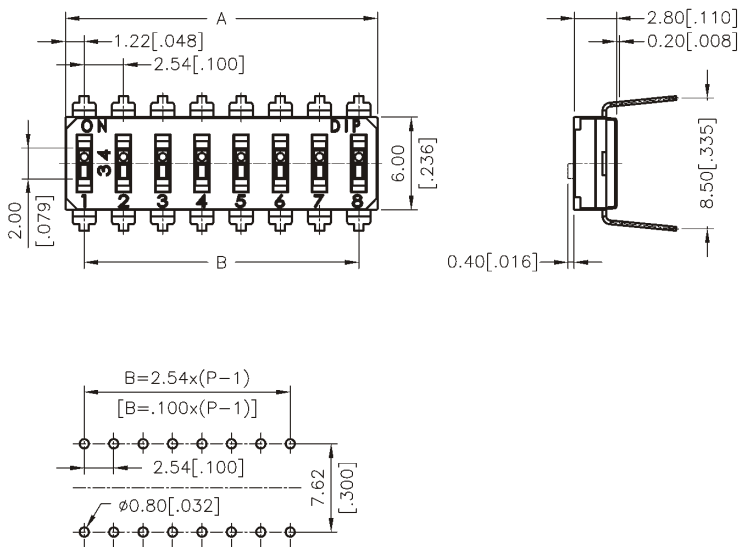
EI(R)



P.C.B. LAYOUT

EI-12 EIR-12	12	30.38[1.196]	27.94[1.100]
EI-10 EIR-10	10	25.30[.996]	22.86[.900]
EI-09 EIR-09	9	22.76[.896]	20.32[.800]
EI-08 EIR-08	8	20.22[.796]	17.78[.700]
EI-07 EIR-07	7	17.68[.696]	15.24[.600]
EI-06 EIR-06	6	15.14[.596]	12.70[.500]
EI-05 EIR-05	5	12.60[.496]	10.16[.400]
EI-04 EIR-04	4	10.06[.396]	7.62[.300]
EI-03 EIR-03	3	7.52[.296]	5.08[.200]
EI-02 EIR-02	2	4.98[.196]	2.54[.100]
EI-01 EIR-01	1	2.44[.096]	---
PROD. NO.	NO. OF POS.	DIM. A	DIM. B

ES(R)



P.C.B. LAYOUT

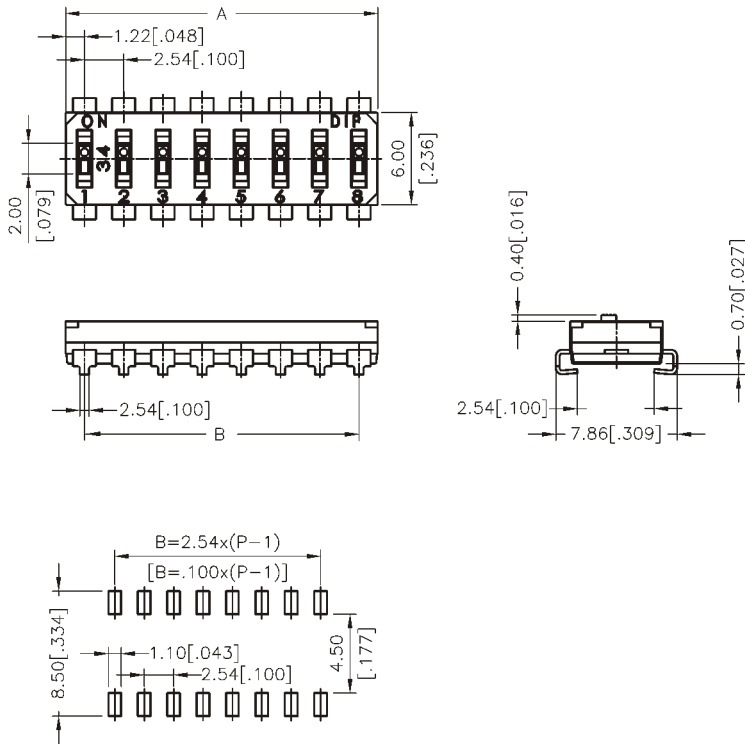
ES-12 ESR-12	12	30.38[1.196]	27.94[1.100]
ES-10 ESR-10	10	25.30[.996]	22.86[.900]
ES-09 ESR-09	9	22.76[.896]	20.32[.800]
ES-08 ESR-08	8	20.22[.796]	17.78[.700]
ES-07 ESR-07	7	17.68[.696]	15.24[.600]
ES-06 ESR-06	6	15.14[.596]	12.70[.500]
ES-05 ESR-05	5	12.60[.496]	10.16[.400]
ES-04 ESR-04	4	10.06[.396]	7.62[.300]
ES-03 ESR-03	3	7.52[.296]	5.08[.200]
ES-02 ESR-02	2	4.98[.196]	2.54[.100]
ES-01 ESR-01	1	2.44[.096]	---
PROD. NO.	NO. OF POS.	DIM. A	DIM. B

EM(R), EI(R) & ES(R), EJ(R) SERIES

End Stackable / SMT & Through Hole Type



EJ(R)



P.C.B. LAYOUT

EJ-12 EJR-12	12	30.38[1.196]	27.94[1.100]
EJ-10 EJR-10	10	25.30[.996]	22.86[.900]
EJ-09 EJR-09	9	22.76[.896]	20.32[.800]
EJ-08 EJR-08	8	20.22[.796]	17.78[.700]
EJ-07 EJR-07	7	17.68[.696]	15.24[.600]
EJ-06 EJR-06	6	15.14[.596]	12.70[.500]
EJ-05 EJR-05	5	12.60[.496]	10.16[.400]
EJ-04 EJR-04	4	10.06[.396]	7.62[.300]
EJ-03 EJR-03	3	7.52[.296]	5.08[.200]
EJ-02 EJR-02	2	4.98[.196]	2.54[.100]
PROD. NO.	NO. OF POS.	DIM. A	DIM. B

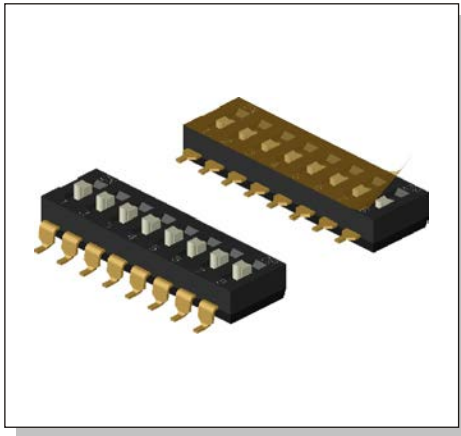
DIP SWITCH

DM(R), DJ(R) & DL(R) SERIES

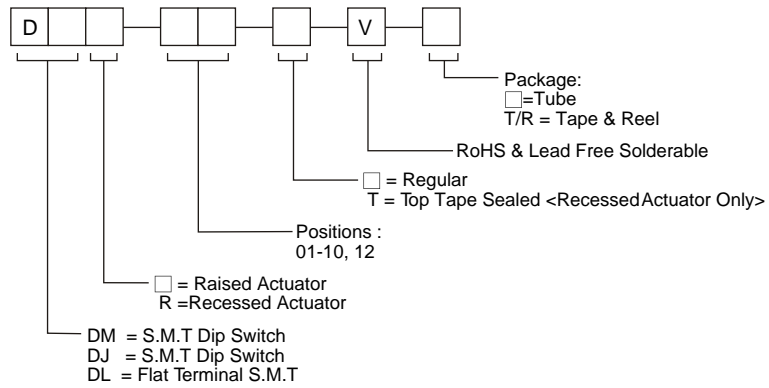
Surface Mount IC Type



DIP SWITCH



HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force: 1,000gf max.
 Stroke: 1.0 mm

ENVIRONMENTAL

Operation Temp: -20°C to +85°C
 Storage Temperature: -40°C to +85°C

ELECTRICAL

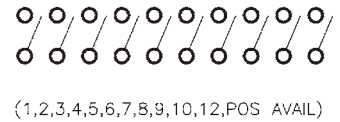
Electrical Life: 2,000 operations
 Non-Switching Rating: 100mA, 50VDC.
 Switching rating: 25mA 24VDC.

PACKAGE

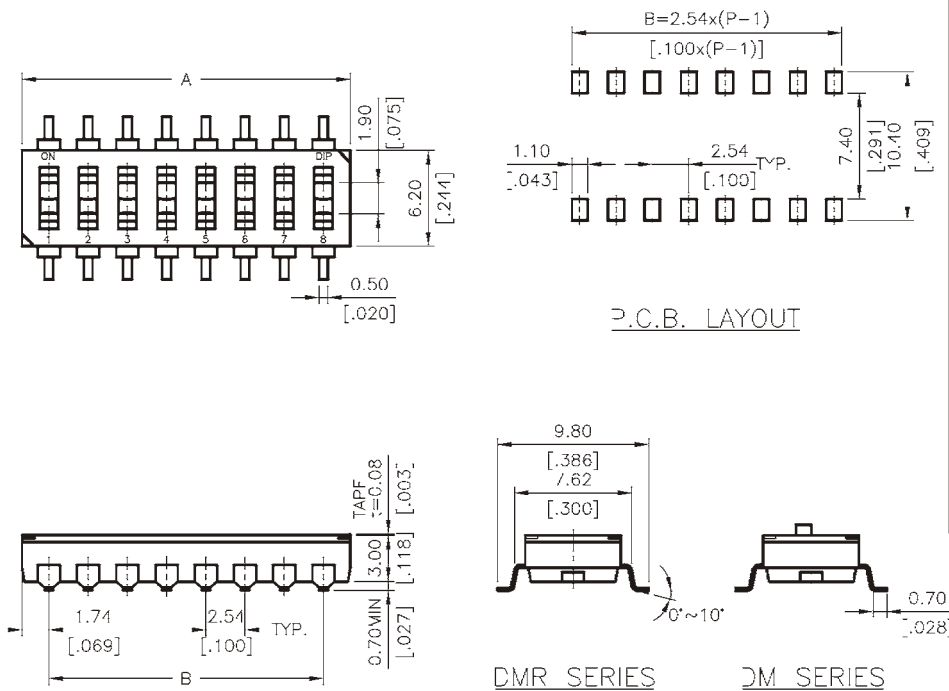
- DM(R)-01(-T): 130 pcs/tube DM(R)-02(-T): 76 pcs/tube
- DM(R)-03(-T): 55 pcs/tube DM(R)-04(-T): 42 pcs/tube
- DM(R)-05(-T): 35 pcs/tube DM(R)-06(-T): 28 pcs/tube
- DM(R)-07(-T): 25 pcs/tube DM(R)-08(-T): 22 pcs/tube
- DM(R)-09(-T): 20 pcs/tube DM(R)-10(-T): 18 pcs/tube
- DM(R)-12(-T): 15 pcs/tube
- DM(R)-01-T-T/R: 800 pcs/reel
- DMR-02-T-T/R-DMR-12-T-T/R: 900 pcs/reel
- DM-(01)(05)(07)(10)-T/R: 800 pcs/reel
- DM-(02)(03)(04)(06)(08)(09)(12)-T/R: 700 pcs/reel
- DJR-(02)(03)(04)(08)(09)(10)-T-T/R: 1000 pcs/reel

CIRCUIT

SCHEMATIC(TYP.)



DM(R)



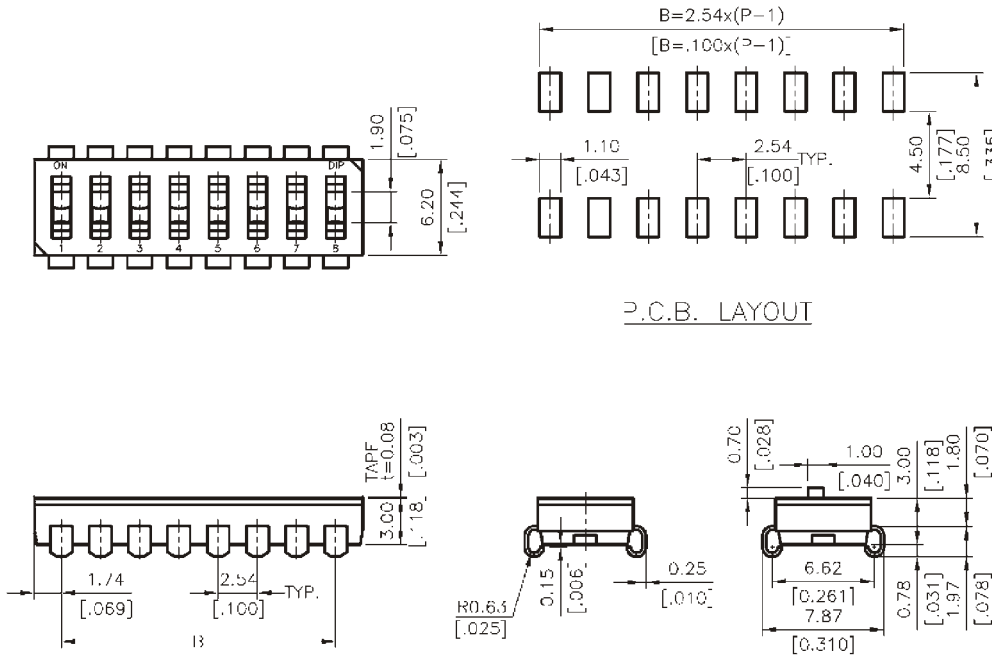
PROD. NO.	NO. OF POS.	DIM. A	DIM. B
DM-12 DMR-12	12	31.42 [1.237]	27.94 [1.100]
DM-10 DMR-10	10	26.34 [1.037]	22.86 [.900]
DM-09 DMR-09	9	23.80 [.937]	20.32 [.800]
DM-08 DMR-08	8	21.26 [.837]	17.78 [.700]
DM-07 DMR-07	7	18.72 [.737]	15.24 [.600]
DM-06 DMR-06	6	16.18 [.637]	12.70 [.500]
DM-05 DMR-05	5	13.64 [.537]	10.16 [.400]
DM-04 DMR-04	4	11.10 [.437]	7.62 [.300]
DM-03 DMR-03	3	8.56 [.337]	5.08 [.200]
DM-02 DMR-02	2	6.02 [.237]	2.54 [.100]
DM-01 DMR-01	1	3.48 [.137]	

DM(R), DJ(R) & DL(R) SERIES

Surface Mount IC Type



DJ(R)

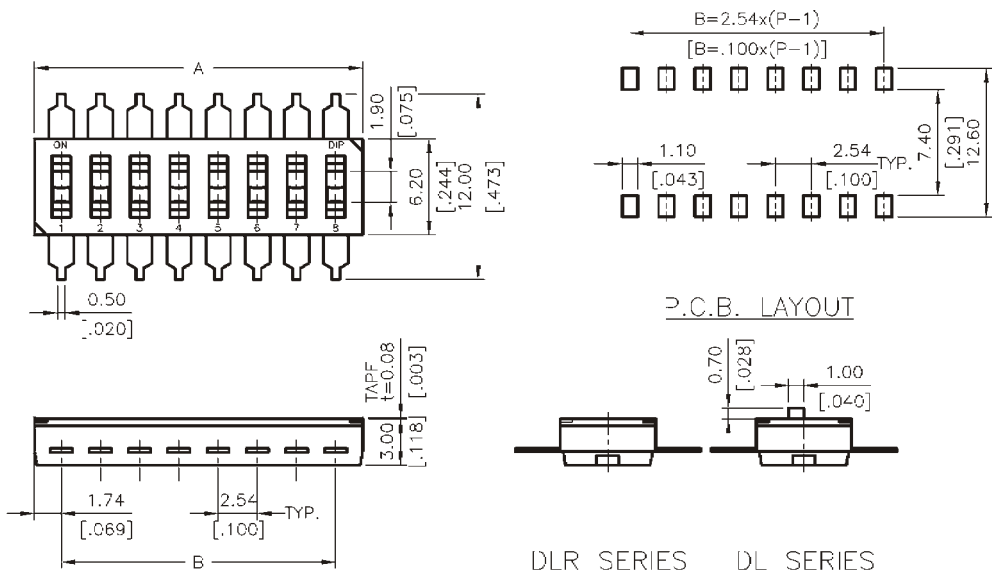


DJR SERIES

DJ SERIES

PROD. NO.	NO. OF POS.	DIM. A	DIM. B
DJ-12 DJR-12	12	31.42 [1.237]	27.94 [1.100]
DJ-10 DJR-10	10	26.34 [1.037]	22.86 [.900]
DJ-09 DJR-09	9	23.80 [.937]	20.32 [.800]
DJ-08 DJR-08	8	21.26 [.837]	17.78 [.700]
DJ-07 DJR-07	7	18.72 [.737]	15.24 [.600]
DJ-06 DJR-06	6	16.18 [.637]	12.70 [.500]
DJ-05 DJR-05	5	13.64 [.537]	10.16 [.400]
DJ-04 DJR-04	4	11.10 [.437]	7.62 [.300]
DJ-03 DJR-03	3	8.56 [.337]	5.08 [.200]
DJ-02 DJR-02	2	6.02 [.237]	2.54 [.100]
DJ-01 DJR-01	1	---	---

DL(R)



DLR SERIES

DL SERIES

PROD. NO.	NO. OF POS.	DIM. A	DIM. B
DL-12 DLR-12	12	31.42 [1.237]	27.94 [1.100]
DL-10 DLR-10	10	26.34 [1.037]	22.86 [.900]
DL-09 DLR-09	9	23.80 [.937]	20.32 [.800]
DL-08 DLR-08	8	21.26 [.837]	17.78 [.700]
DL-07 DLR-07	7	18.72 [.737]	15.24 [.600]
DL-06 DLR-06	6	16.18 [.637]	12.70 [.500]
DL-05 DLR-05	5	13.64 [.537]	10.16 [.400]
DL-04 DLR-04	4	11.10 [.437]	7.62 [.300]
DL-03 DLR-03	3	8.56 [.337]	5.08 [.200]
DL-02 DLR-02	2	6.02 [.237]	2.54 [.100]
DL-01 DLR-01	1	3.48 [.137]	

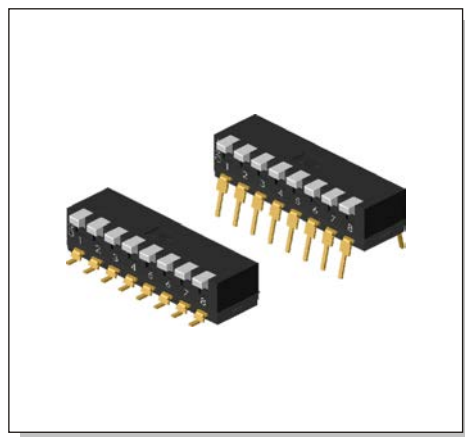
DIP SWITCH

NPI & NPM SERIES

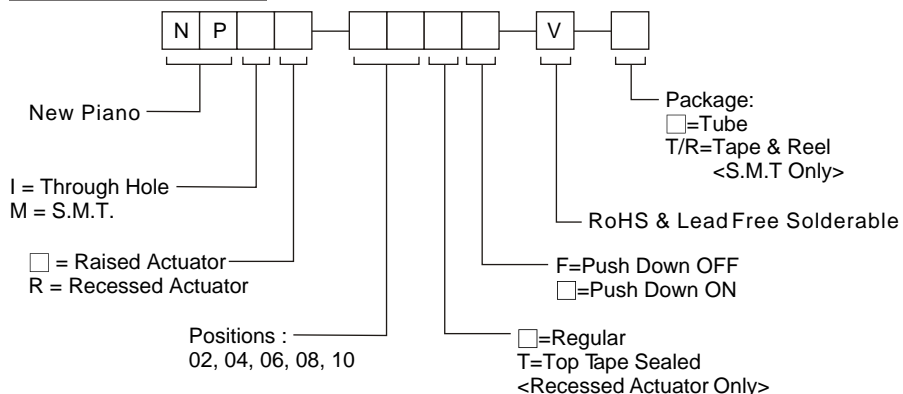
New Piano Type



DIP SWITCH



HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force: 800gf max.

ENVIRONMENTAL

Operation Temperature Range: -20°C to +85°C.

Storage Temperature Range: -40°C to +85°C.

ELECTRICAL

Electrical Life: 2,000 cycles.

Non-Switching Rating: 100mA, 50VDC

Switching Rating: 25mA, 24VDC

PACKAGE

NPI(R)/NPM(R)-02: 70 pcs/tube

NPI(R)/NPM(R)-04: 40 pcs/tube

NPI(R)/NPM(R)-06: 28 pcs/tube

NPI(R)/NPM(R)-08: 20 pcs/tube

NPI(R)/NPM(R)-10: 16 pcs/tube

NPM(R)-02, 04, 06, 08, 10: 700 pcs/reel

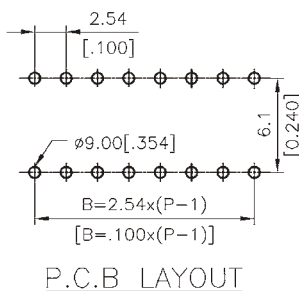
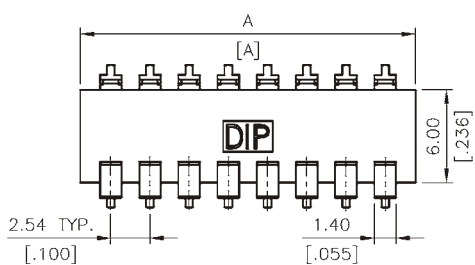
CIRCUIT

SCHEMATIC(TYP.)

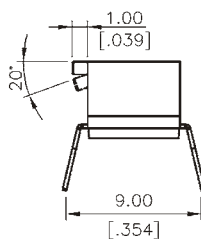
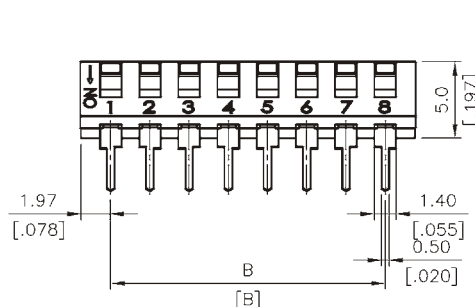


CIRCUIT DIAGRAM

NPI



NPI-10-V	10	26.80 [1.055]	22.86 [.900]
NPI-08-V	8	21.72 [.855]	17.78 [.700]
NPI-06-V	6	16.64 [.655]	12.70 [.500]
NPI-04-V	4	11.56 [.455]	7.62 [.300]
NPI-02-V	2	6.48 [.255]	2.54 [.100]
PROD. NO.	NO. OF POS.	DIM. A	DIM. B

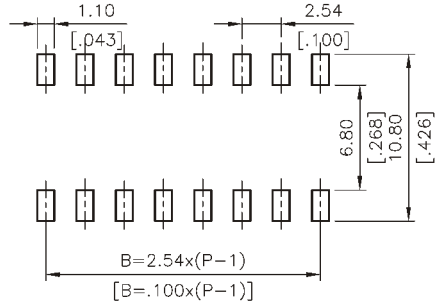
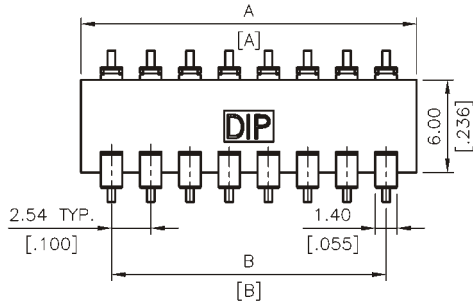


NPI & NPM SERIES

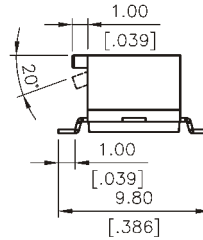
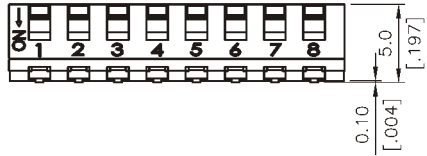
New Piano Type



NPM

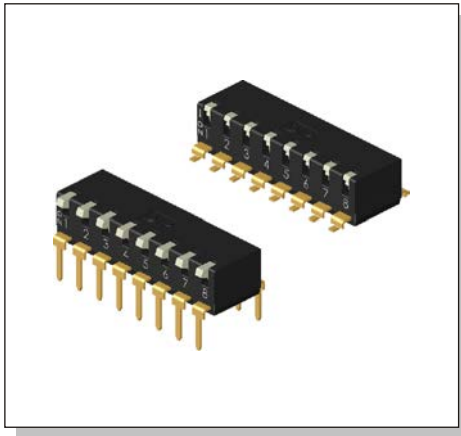


P.C.B LAYOUT

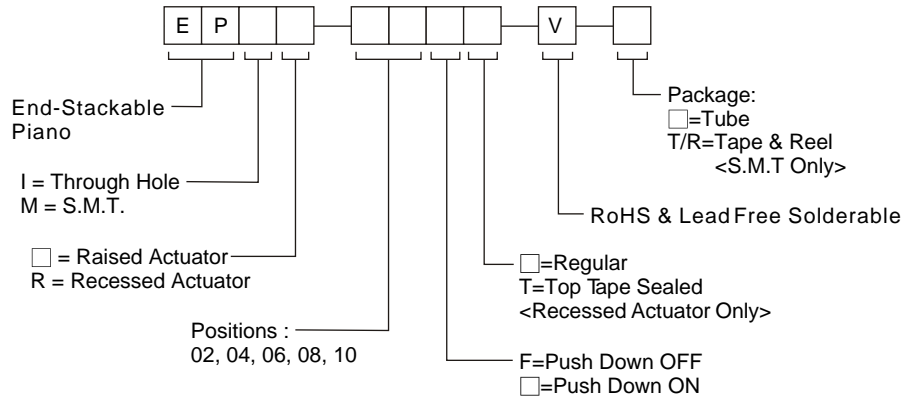


NPM-10-V	10	26.80 [1.055]	22.86 [0.900]
NPM-08-V	8	21.72 [0.855]	17.78 [0.700]
NPM-06-V	6	16.64 [0.655]	12.70 [0.500]
NPM-04-V	4	11.56 [0.455]	7.62 [0.300]
NPM-02-V	2	6.48 [0.255]	2.54 [0.100]
PROD. NO.	NO. OF POS.	DIM. A	DIM. B

DIP SWITCH



HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force: 800gf max.

ENVIRONMENTAL

Operation Temperature Range: -20°C to +85°C.

Storage Temperature Range: -40°C to +85°C.

ELECTRICAL

Electrical Life: 2,000 cycles.

Switching Rating: 25mA, 24VDC

PACKAGE

EPI(R)/EPM(R)-02: 95 pcs/tube

EPI(R)/EPM(R)-04: 47 pcs/tube

EPI(R)/EPM(R)-06: 31 pcs/tube

EPI(R)/EPM(R)-08: 23 pcs/tube

EPI(R)/EPM(R)-10: 18 pcs/tube

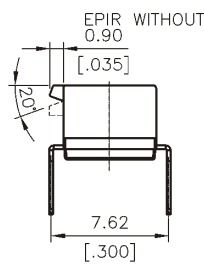
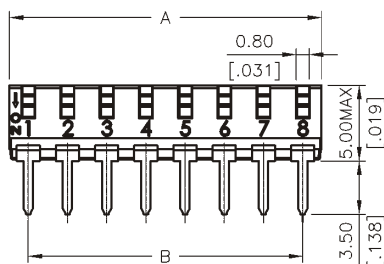
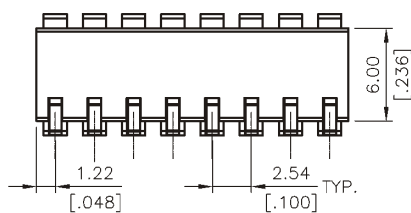
EPM(R)-02, 04, 06, 08, 10: 700 pcs/reel

CIRCUIT

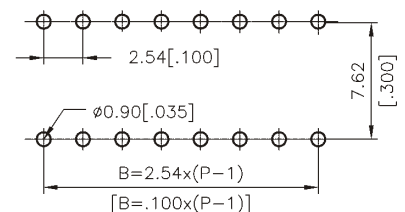
SCHEMATIC(TYP.)



EPI(R)

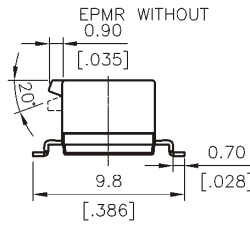
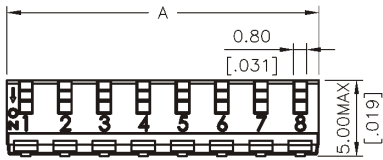
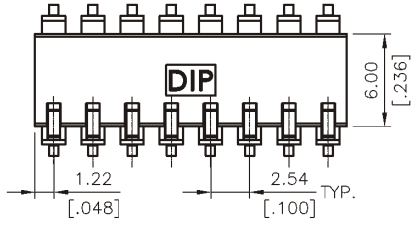


EPI-10 EPIR-10	10	25.30[.996]	22.86[.900]
EPI-08 EPIR-08	8	20.22[.796]	17.78[.700]
EPI-06 EPIR-06	6	15.14[.596]	12.70[.500]
EPI-04 EPIR-04	4	10.06[.396]	7.62[.300]
EPI-02 EPIR-02	2	4.89[.196]	2.54[.100]
PROD. NO.	NO. OF POS.	DIM. A	DIM. B

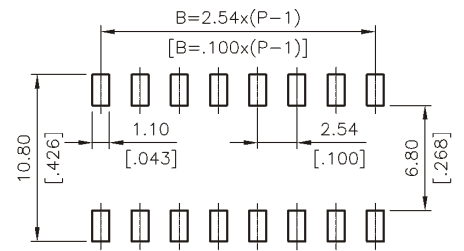


P.C.B. LAYOUT

EPM(R)



EPM-10 EPMR-10	10	25.30[.996]	22.86[.900]
EPM-08 EPMR-08	8	20.22[.796]	17.78[.700]
EPM-06 EPMR-06	6	15.14[.596]	12.70[.500]
EPM-04 EPMR-04	4	10.06[.396]	7.62[.300]
EPM-02 EPMR-02	2	4.89[.196]	2.54[.100]
PROD. NO.	NO. OF POS.	DIM. A	DIM. B



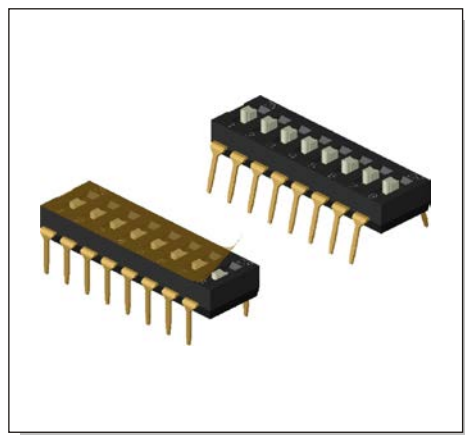
P.C.B. LAYOUT



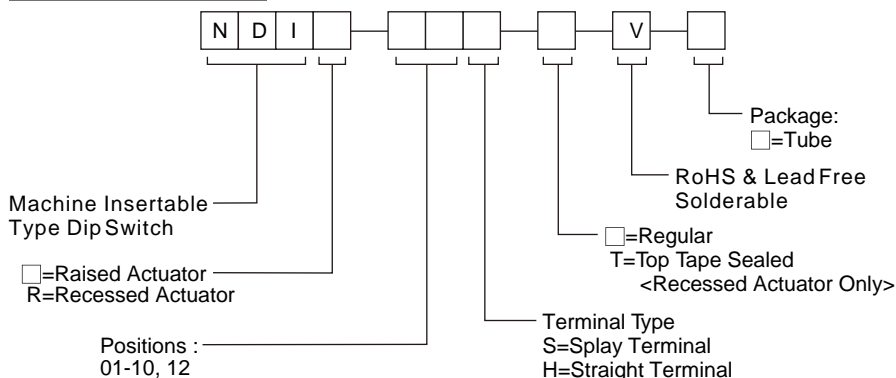
NDI(R) SERIES

Machine Insertable IC Type

DIP SWITCH



HOW TO ORDER



SPECIFICATION

MECHANICAL

Mechanical Life: 2,000 operations
 Operation Force: 1,000gf max.
 Stroke: 1.0 mm

ENVIRONMENTAL

Operation Temp: -20°C to +85°C
 Storage Temperature: -40°C to +85°C

ELECTRICAL

Electrical Life: 2,000 operations
 Non-switching Rating: 100mA, 50VDC
 Switching Rating: 25mA, 24VDC

PACKAGE

NDI(R)-01(-T): 130 pcs/tube
 NDI(R)-02(-T): 76 pcs/tube
 NDI(R)-03(-T): 55 pcs/tube
 NDI(R)-04(-T): 42 pcs/tube
 NDI(R)-05(-T): 34 pcs/tube
 NDI(R)-06(-T): 29 pcs/tube
 NDI(R)-07(-T): 25 pcs/tube
 NDI(R)-08(-T): 22 pcs/tube
 NDI(R)-09(-T): 20 pcs/tube
 NDI(R)-10(-T): 18 pcs/tube
 NDI(R)-12(-T): 15 pcs/tube

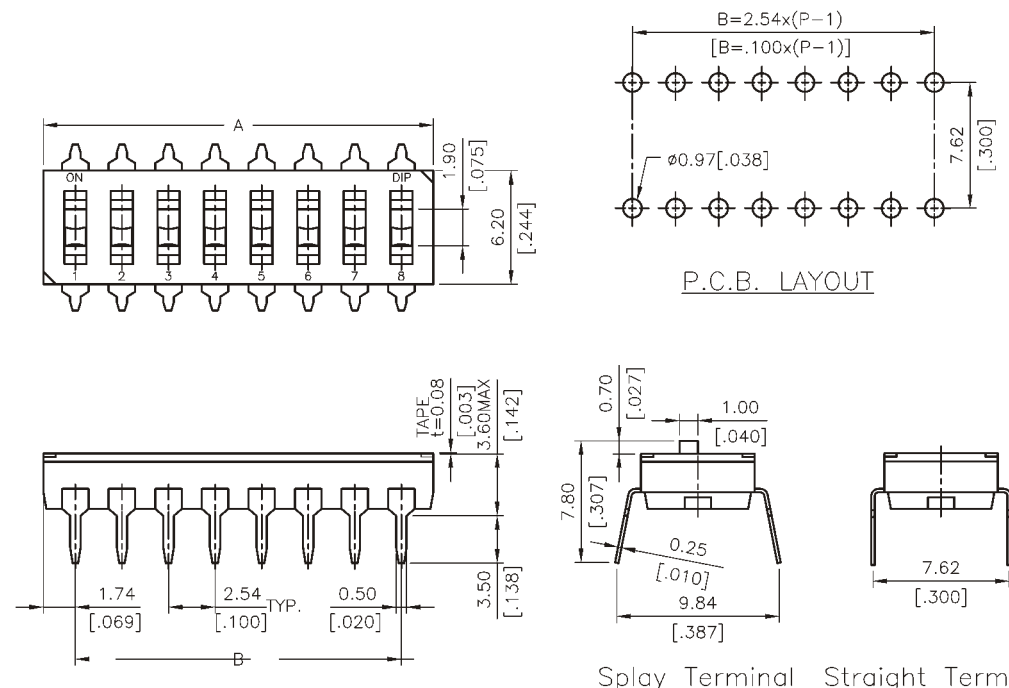
CIRCUIT

SCHEMATIC(TYP.)



(1,2,3,4,5,6,7,8,9,10,12,POS AVAIL)

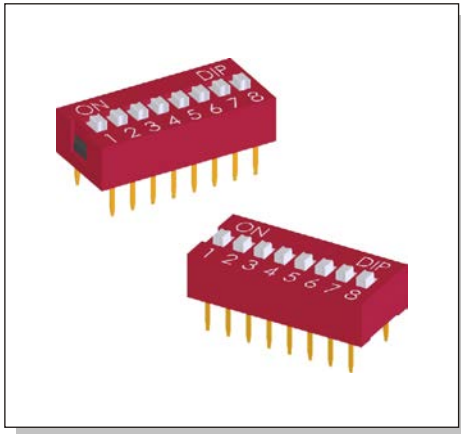
NDI(R)



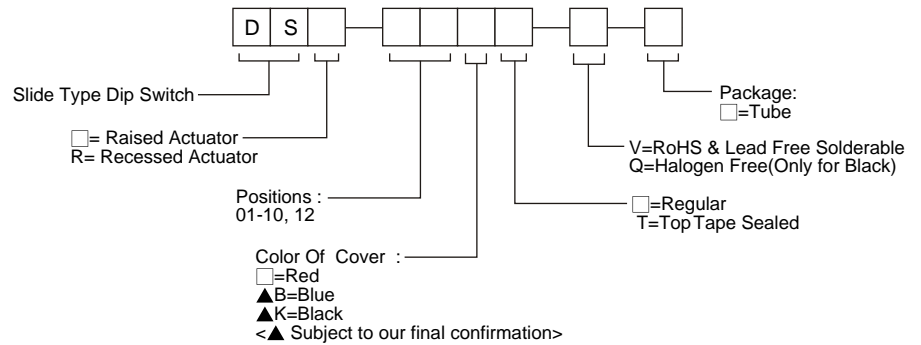
NDI-12□	12	31.42	27.94
NDIR-12□		[1.237]	[1.100]
NDI-10□	10	26.34	22.86
NDIR-10□		[1.037]	[.900]
NDI-09□	9	23.80	20.32
NDIR-09□		[.937]	[.800]
NDI-08□	8	21.26	17.78
NDIR-08□		[.837]	[.700]
NDI-07□	7	18.72	15.24
NDIR-07□		[.737]	[.600]
NDI-06□	6	16.18	12.70
NDIR-06□		[.637]	[.500]
NDI-05□	5	13.64	10.16
NDIR-05□		[.537]	[.400]
NDI-04□	4	11.10	7.62
NDIR-04□		[.437]	[.300]
NDI-03□	3	8.56	5.08
NDIR-03□		[.337]	[.200]
NDI-02□	2	6.02	2.54
NDIR-02□		[.237]	[.100]
NDI-01□	1	3.48	---
NDIR-01□		[.137]	
PROD. NO.	NO. OF POS.	DIM. A	DIM. B

DS(R) SERIES

SPST Standard Slide Type



HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force: 1,000gf max.
Stroke: 2.0mm

ENVIRONMENTAL

Operation Temperature: -20°C to +70°C
Storage Temperature: -40°C to +85°C

ELECTRICAL

Electrical Life: 2,000 operations
Non-Switching Rating: 100mA , 50VDC
Switching Rating: 25mA , 24VDC

PACKAGE

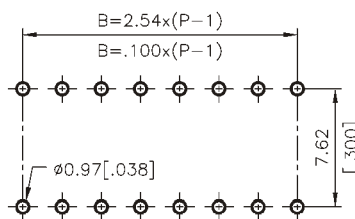
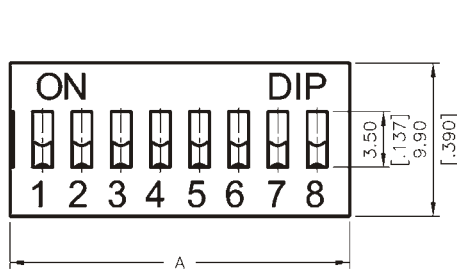
DS(R)-01: 120 pcs/tube	DS(R)-01-T: 113 pcs/tube
DS(R)-02: 72 pcs/tube	DS(R)-02-T: 70 pcs/tube
DS(R)-03: 51 pcs/tube	DS(R)-03-T: 50 pcs/tube
DS(R)-04: 40 pcs/tube	DS(R)-04-T: 39 pcs/tube
DS(R)-05: 32 pcs/tube	DS(R)-05-T: 32 pcs/tube
DS(R)-06: 27 pcs/tube	DS(R)-06-T: 27 pcs/tube
DS(R)-07: 24 pcs/tube	DS(R)-07-T: 24 pcs/tube
DS(R)-08: 21 pcs/tube	DS(R)-08-T: 21 pcs/tube
DS(R)-09: 19 pcs/tube	DS(R)-09-T: 19 pcs/tube
DS(R)-10: 17 pcs/tube	DS(R)-10-T: 17 pcs/tube
DS(R)-12: 14 pcs/tube	DS(R)-12-T: 14 pcs/tube

CIRCUIT

SCHEMATIC (TYP.)

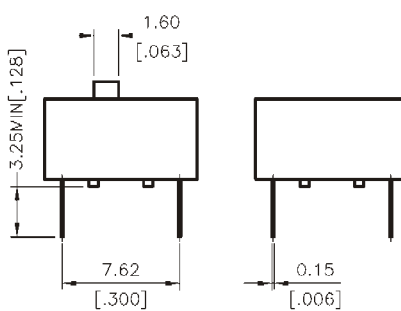
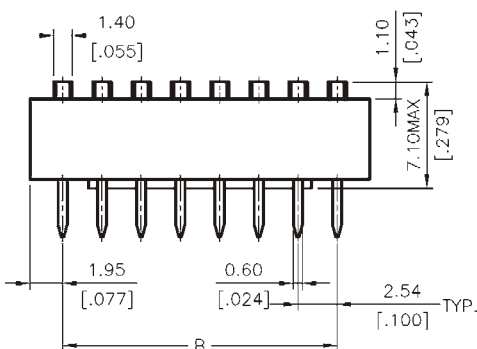


DS(R)



P.C.B. LAYOUT

DS-12	12	31.84	27.94
DSR-12		[1.254]	[1.100]
DS-10	10	26.76	22.86
DSR-10		[1.054]	[.900]
DS-09	9	24.22	20.32
DSR-09		[.954]	[.800]
DS-08	8	21.68	17.78
DSR-08		[.854]	[.700]
DS-07	/	19.14	15.24
DSR-07		[.754]	[.600]
DS-06	6	16.60	12.70
DSR-06		[.654]	[.500]
DS-05	5	14.06	10.16
DSR-05		[.554]	[.400]
DS-04	4	11.52	7.62
DSR-04		[.454]	[.300]
DS-03	3	8.98	5.08
DSR-03		[.354]	[.200]
DS-02	2	6.44	2.54
DSR-02		[.254]	[.100]
DS-01	1	3.90	-
DSR-01		[.153]	
PROD. NO.	NO. OF POS.	DIM. A	DIM. B



DS SERIES

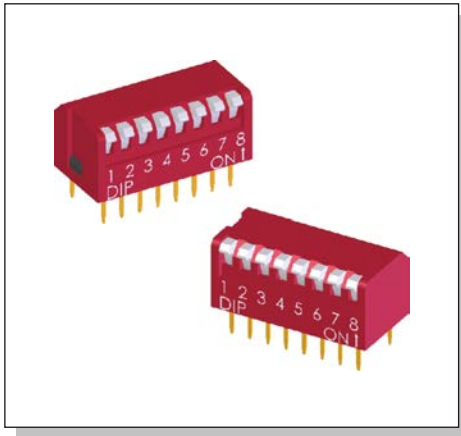
DSR SERIES

DP(L) SERIES

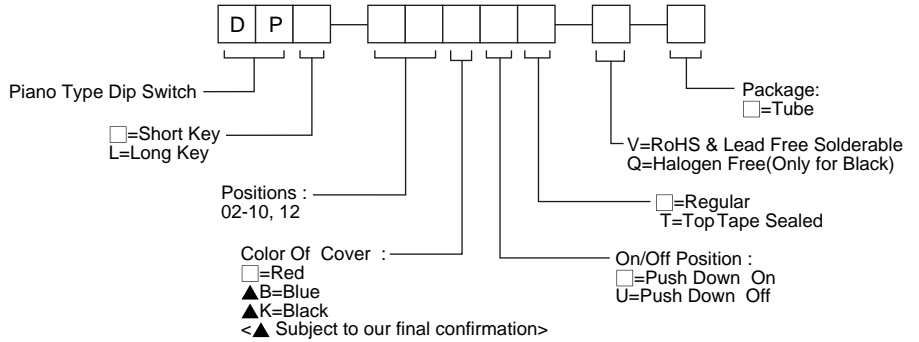
SPST Standard Piano Type



DIP SWITCH



HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force: 400gf max.
Stroke: 30°

ENVIRONMENTAL

Operation Temperature: -20°C to +70°C
Storage Temperature: -40°C to +85°C

ELECTRICAL

Electrical Life: 2,000 operations
Non-Switching Rating: 100mA , 50VDC
Switching Rating: 25mA , 24VDC

PACKAGE

DP(L)-02: 70 pcs/tube	DP(L)-02-T: 65 pcs/tube
DP(L)-03: 50 pcs/tube	DP(L)-03-T: 49 pcs/tube
DP(L)-04: 39 pcs/tube	DP(L)-04-T: 39 pcs/tube
DP(L)-05: 32 pcs/tube	DP(L)-05-T: 32 pcs/tube
DP(L)-06: 27 pcs/tube	DP(L)-06-T: 27 pcs/tube
DP(L)-07: 24 pcs/tube	DP(L)-07-T: 24 pcs/tube
DP(L)-08: 21 pcs/tube	DP(L)-08-T: 21 pcs/tube
DP(L)-09: 19 pcs/tube	DP(L)-09-T: 19 pcs/tube
DP(L)-10: 17 pcs/tube	DP(L)-10-T: 17 pcs/tube
DP(L)-12: 14 pcs/tube	DP(L)-12-T: 14 pcs/tube

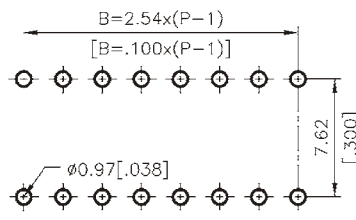
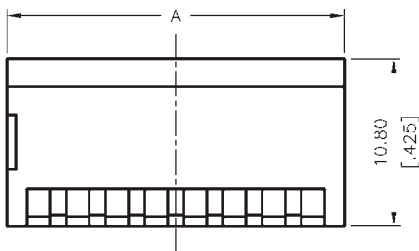
CIRCUIT

SCHEMATIC(TYP.)

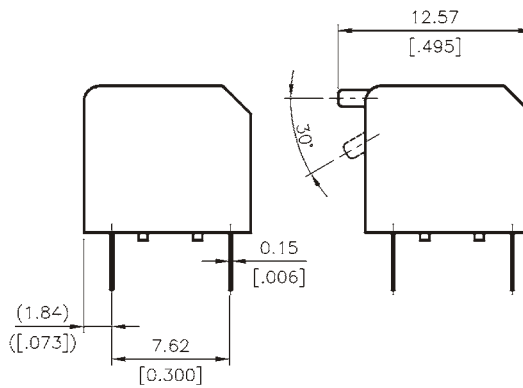
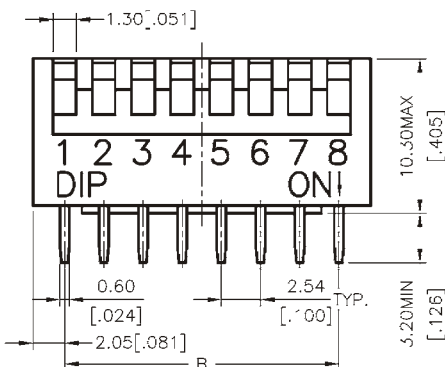


(2,3,4,5,6,7,8,9,10,12, POS AVAIL)

DP(L)



P.C.B. LAYOUT



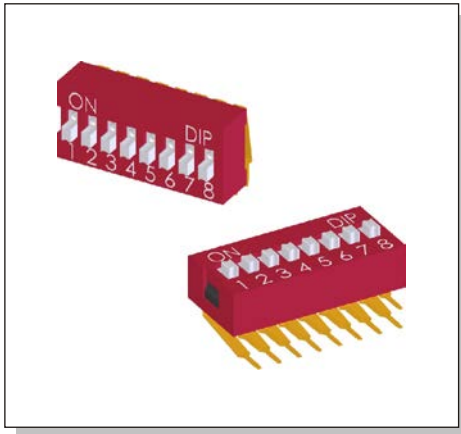
DP SERIES

DPL SERIES

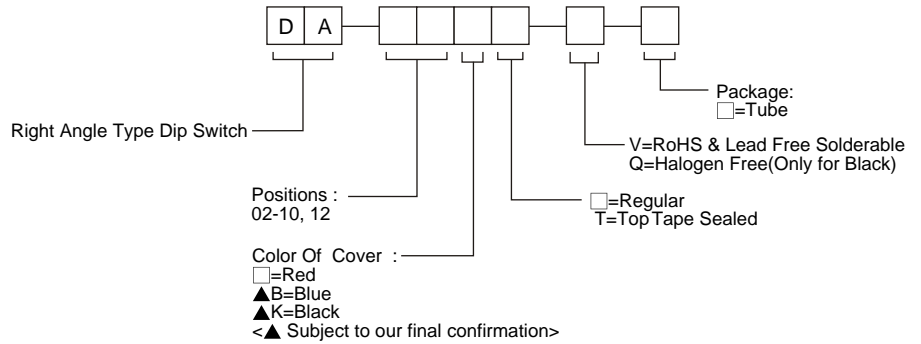
PROD. NO.	NO. OF POS.	DIM. A	DIM. B
DP-12 DPL-12	12	32.04 [1.261]	27.94 [1.100]
DP-10 DPL-10	10	26.96 [1.061]	22.86 [0.900]
DP-09 DPL-09	9	24.42 [0.961]	20.32 [0.800]
DP-08 DPL-08	8	21.88 [0.861]	17.78 [0.700]
DP-07 DPL-07	/	19.34 [0.761]	15.24 [0.600]
DP-06 DPL-06	6	16.80 [0.661]	12.70 [0.500]
DP-05 DPL-05	5	14.26 [0.561]	10.16 [0.400]
DP-04 DPL-04	4	11.72 [0.461]	7.62 [0.300]
DP-03 DPL-03	3	9.18 [0.361]	5.08 [0.200]
DP-02 DPL-02	2	6.64 [0.261]	2.54 [0.100]

DA SERIES

SPST Standard Right Angle Type



HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force: 1,000gf max.
Stroke: 2.0mm

ENVIRONMENTAL

Operation Temperature: -20°C to +70°C
Storage Temperature: -40°C to +85°C

ELECTRICAL

Electrical Life: 2,000 operations
Non-Switching Rating: 100mA , 50VDC
Switching Rating: 25mA , 24VDC

PACKAGE

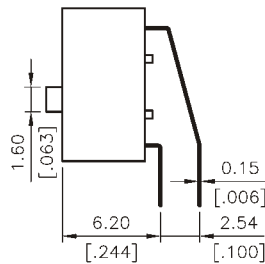
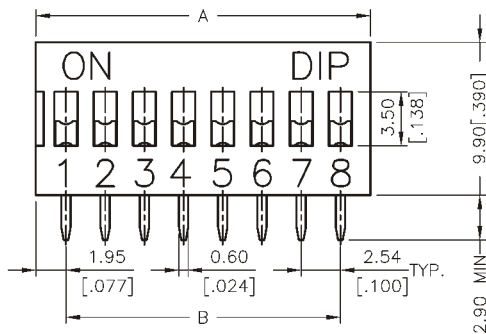
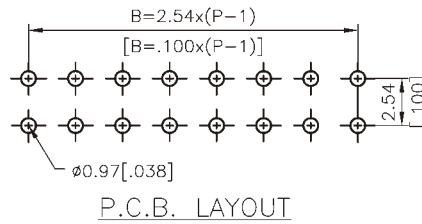
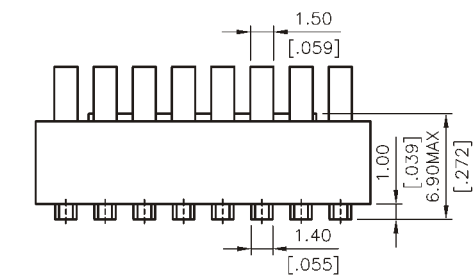
DA-02: 73pcs/tube	DA-02-T: 70 pcs/tube
DA-03: 52pcs/tube	DA-03-T: 50 pcs/tube
DA-04: 40pcs/tube	DA-04-T: 39 pcs/tube
DA-05: 33pcs/tube	DA-05-T: 32 pcs/tube
DA-06: 28pcs/tube	DA-06-T: 28 pcs/tube
DA-07: 24pcs/tube	DA-07-T: 24 pcs/tube
DA-08: 21pcs/tube	DA-08-T: 21 pcs/tube
DA-09: 19pcs/tube	DA-09-T: 19 pcs/tube
DA-10: 17pcs/tube	DA-10-T: 17 pcs/tube
DA-12: 14pcs/tube	DA-12-T: 14 pcs/tube

CIRCUIT

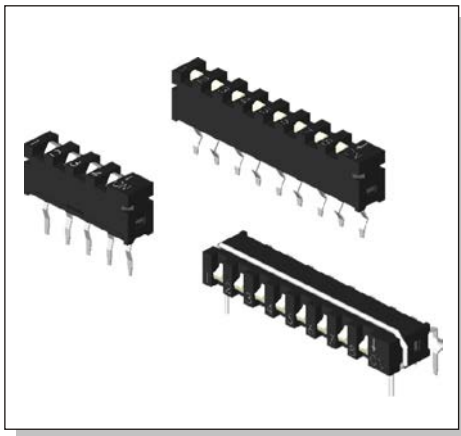
SCHEMATIC(TYP.)



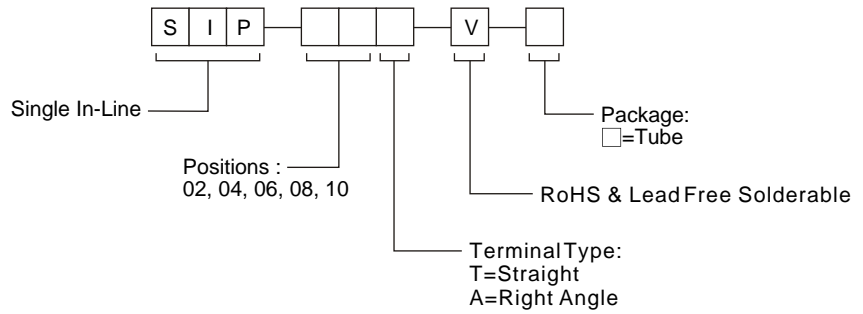
DA



PROD. NO.	NO. OF POS.	DIM.A	DIM.B
DA-12	12	31.84[1.254]	27.94[1.100]
DA-10	10	26.76[1.054]	22.86[.900]
DA-09	9	24.22[.954]	20.32[.800]
DA-08	8	21.68[.854]	17.78[.700]
DA-07	7	19.14[.754]	15.24[.600]
DA-06	6	16.60[.654]	12.70[.500]
DA-05	5	14.06[.554]	10.16[.400]
DA-04	4	11.52[.454]	7.62[.300]
DA-03	3	8.98[.354]	5.08[.200]
DA-02	2	6.44[.254]	2.54[.100]



HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force: 800gf.

ENVIRONMENTAL

Operation Temperature Range: -30°C to +80°C

Storage Temperature Range: -30°C to +80°C

ELECTRICAL

Electrical Life: 500 operations.

Non-Switching Rating: 100mA, 50VDC.

Switching Rating: 10mA, 5VDC.

PACKAGE

SIP-02A: 56 pcs/tube, SIP-02T: 62 pcs/tube

SIP-04A: 35 pcs/tube, SIP-04T: 37 pcs/tube

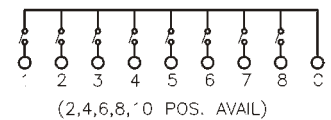
SIP-06A: 25 pcs/tube, SIP-06T: 27 pcs/tube

SIP-08A: 20 pcs/tube, SIP-08T: 20 pcs/tube

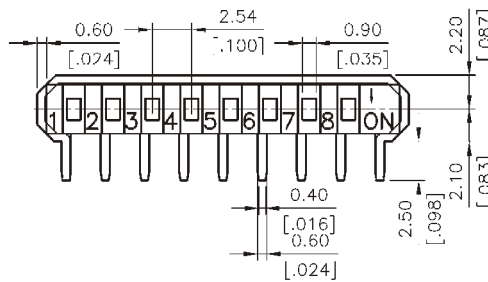
SIP-10A: 16 pcs/tube, SIP-10T: 17 pcs/tube

CIRCUIT

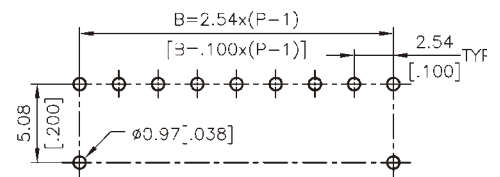
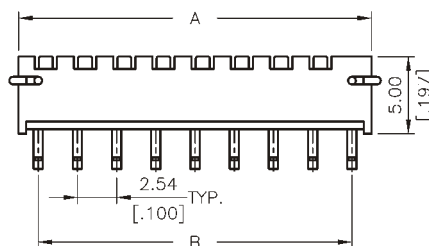
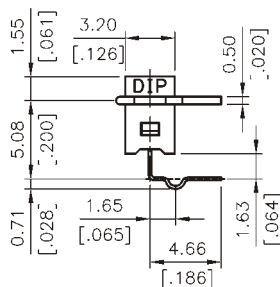
SCHEMATIC(TYP.)



SIP-A

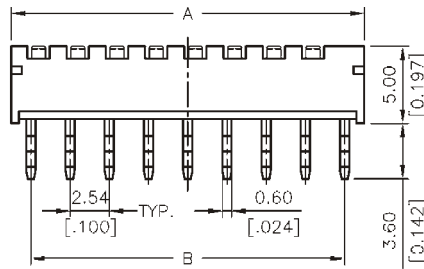
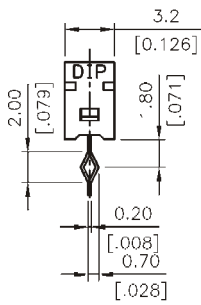
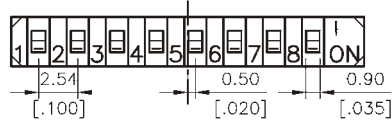


SIP-10-V	10	27.94[1.100]	25.40[1.000]
SIP-08-V	8	22.86[.900]	20.32[.800]
SIP-06-V	6	17.78[.700]	15.24[.600]
SIP-04-V	4	12.70[.500]	10.16[.400]
SIP-02-V	2	7.62[.300]	5.08[.200]
PROD. NO.	NO. OF POS.	D M. A	DIM. B

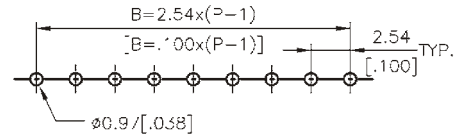


P.C.B. LAYOUT

SIP-T



SIP-10-V	10	27.94[1.100]	25.40[1.000]
SIP-08-V	8	22.86[.900]	20.32[.800]
SIP-06-V	6	17.78[.700]	15.24[.600]
SIP-04-V	4	12.70[.500]	10.16[.400]
SIP-02-V	2	7.62[.300]	5.08[.200]
PROD. NO.	NO. OF POS.	DIM. A	DIM. B



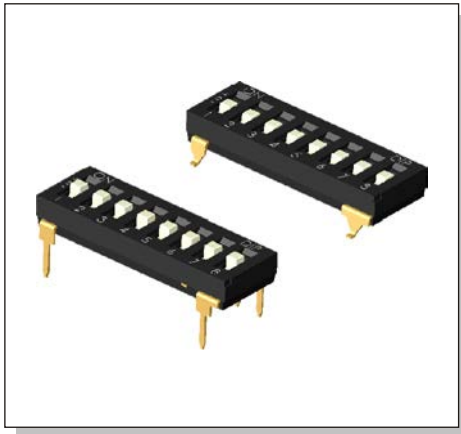
P.C.B. LAYOUT

TII(R) & TIM(R) SERIES

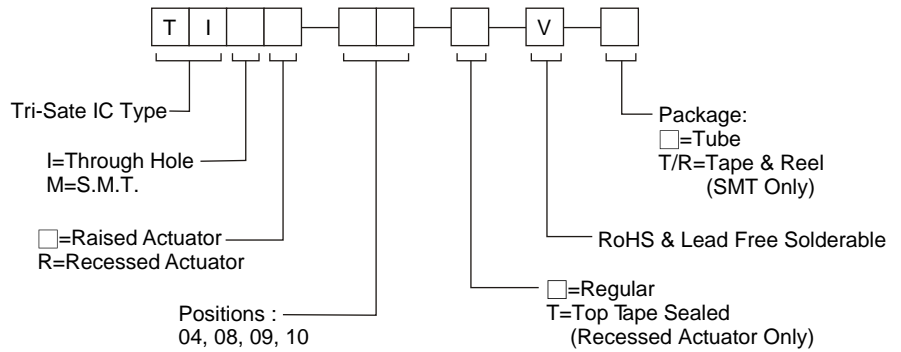
Tri-state Low Profile Type



DIP SWITCH



HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force: 1,000gf max.
 Stroke: 0.8 mm

ENVIRONMENTAL

Operation Temperature Range: -20°C to +85°C
 Storage Temperature Range: -40°C to +85°C

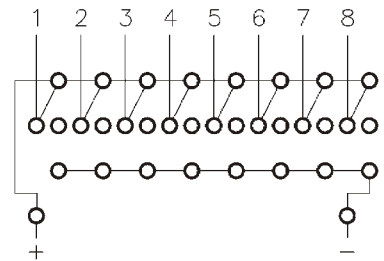
ELECTRICAL

Electrical Life: 2,000 cycles.
 Switching Rating: 25 mA, 24 VDC.

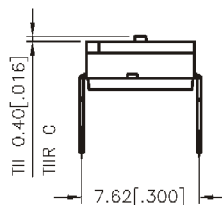
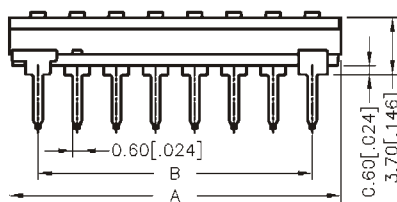
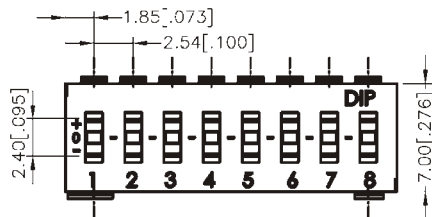
PACKAGE

TII(R)/TIM(R)-04: 41 pcs/tube
 TII(R)/TIM(R)-08: 22 pcs/tube
 TII(R)/TIM(R)-09: 20 pcs/tube
 TII(R)/TIM(R)-10: 18 pcs/tube
 TIM(R)-04, 08, 09, 10: 900 pcs/reel

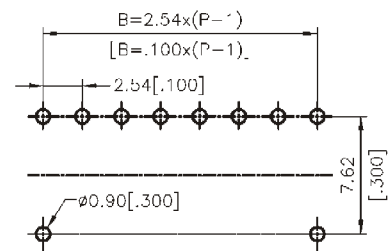
CIRCUIT



TII(R)



TII-10 TIIR-10	10	26.56 [1.046]	22.86 [.900]
TII-09 TIIR-09	9	24.02 [.946]	20.32 [.800]
TII-08 TIIR-08	8	21.48 [.846]	17.78 [.700]
TII-04 TIIR-04	4	11.32 [.446]	7.62 [.300]
PROD. NO.	NO. OF POS.	DIM. A	DIM. B



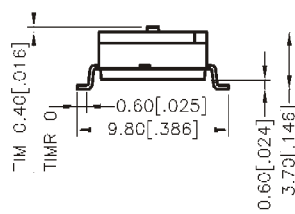
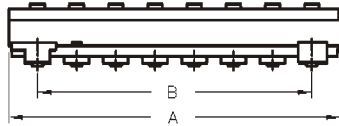
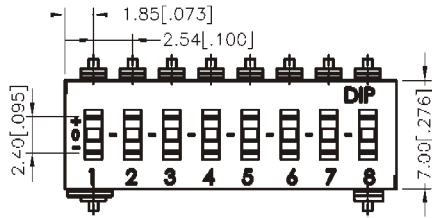
P.C.B. LAYOUT

TII(R) & TIM(R) SERIES

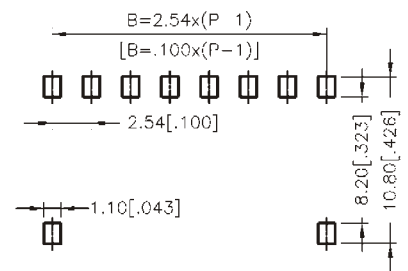
Tri-state Low Profile Type



TIM(R)



TIM-10 TIMR-10	10	26.56[1.046]	22.86[.900]
TIM-09 TIMR-09	9	24.02[.946]	20.32[.800]
TIM-08 TIMR-08	8	21.48[.846]	17.78[.700]
TIM-04 TIMR-04	4	11.52[.446]	7.62[.300]
PROD. NO.	NO. OF POS.	DIM. A	DIM. B

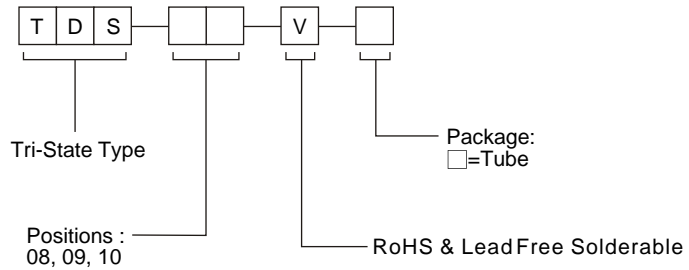


P.C.B. LAYOUT

DIP SWITCH



HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force: 1000gf max.
Stroke: 1.0mm

ENVIRONMENTAL

Operation Temperature Range: -20°C to +70°C.
Storage Temperature Range: -40°C to +85°C.

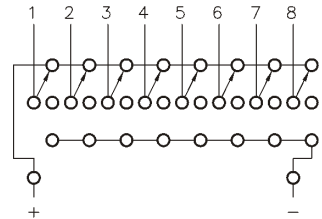
ELECTRICAL

Electrical Life: 2,000 operations.
Non-Switching Rating: 100mA, 50VDC,
Switching Rating: 25mA, 24VDC

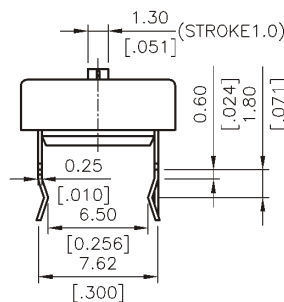
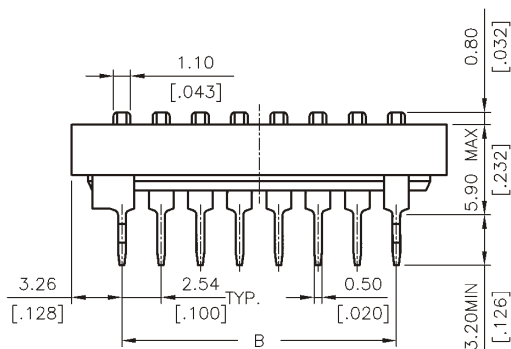
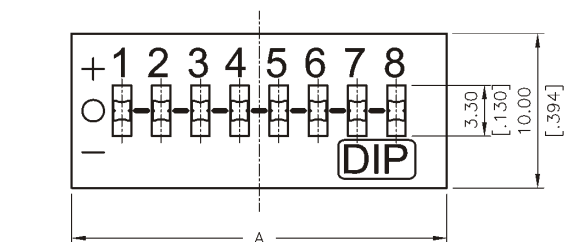
PACKAGE

TDS-08: 19 pcs/tube
TDS-09: 17 pcs/tube
TDS-10: 16 pcs/tube

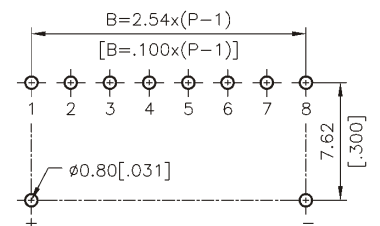
CIRCUIT



TDS







TDS-10	10	29.38[1.157]	22.86[.900]
TDS-09	9	26.84[1.057]	20.32[.800]
TDS-08	8	24.30[.957]	17.78[.700]
PROD. NO.	NO. OF POS.	DIM. A	DIM. B



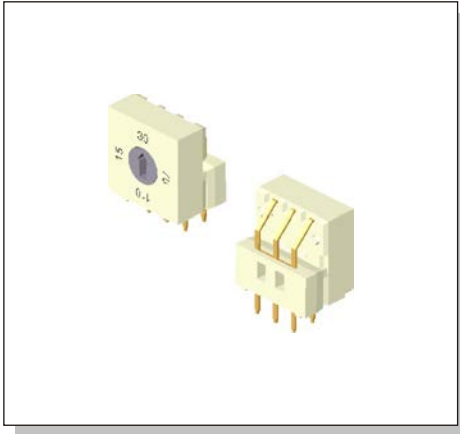
P.C.B. LAYOUT

ROTARY CODED SWITCH

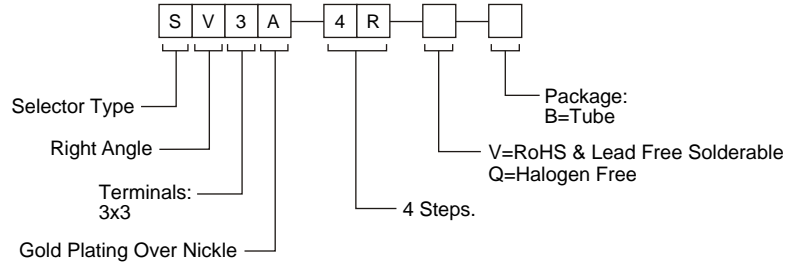
	Series	Features	Page
	SV	Rotary 10x10	37
	RH, RV, RM, RS	Rotary 10x10	38
	RJ	Rotary 7x7 Central C Pin	41
	R7	Rotary 7x7	42

SV3A-4 SERIES

10x10mm Selector Rotary Type



HOW TO ORDER



ROTARY CODED SWITCH

SPECIFICATION

MECHANICAL

Operation Force : 200gf-cm max

ENVIRONMENTAL

Operation Temperature Range: -25°C to +80°C

Storage Temperature Range: -40°C to +85°C

ELECTRICAL

Electrical Life: 20,000 steps

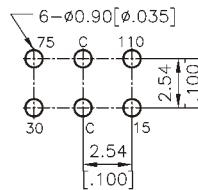
Non-Switching Rating: 100mA, 50VDC

Switching Rating: 25 mA, 24 VDC

PACKAGE

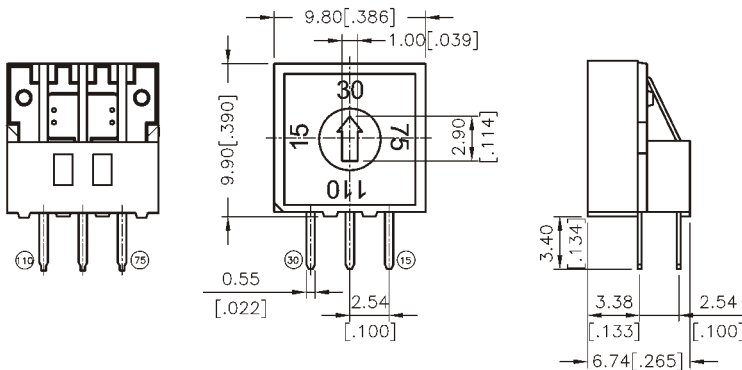
Tube: 48 pcs/tube

SV3A-4



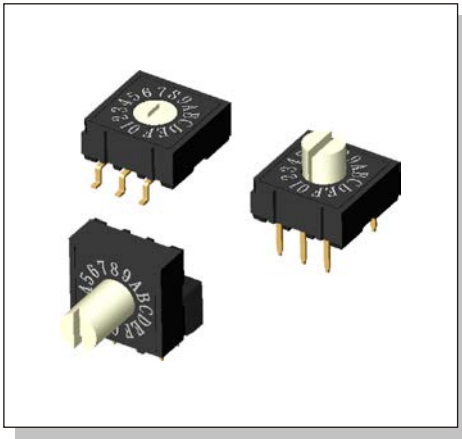
P.C.B. LAYOUT

OON				
● OFF				
POSITION	CODE			
	15	30	75	110
15	○	●	●	●
30	●	○	●	●
75	●	●	○	●
110	●	●	●	○

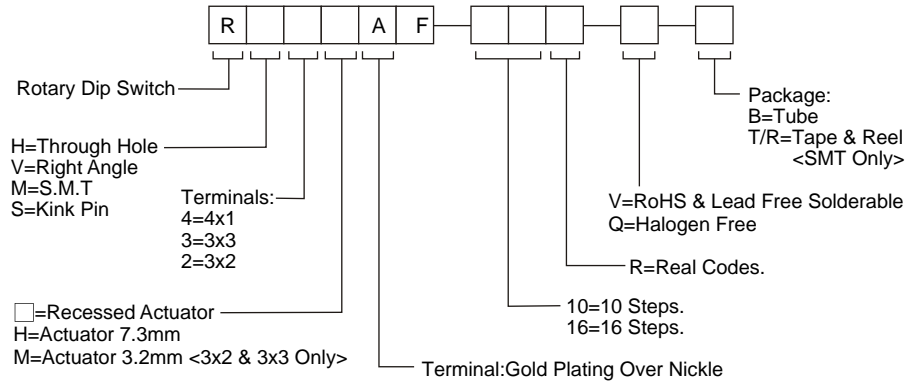


RH, RV, RM & RS SERIES

10x10mm Rotary Type



HOW TO ORDER



SPECIFICATION

MECHANICAL

Operating Force: 200gf cm max.

ENVIRONMENTAL

Operation Temperature Range: -25°C to +80°C.

Storage Temperature Range: -40°C to +85°C.

ELECTRICAL

Electrical Life: 20,000 steps

Non-Switching Rating: 100mA, 50VDC

Switching Rating: 24VDC, 25mA

PACKAGE

Tube: 48 pcs/tube

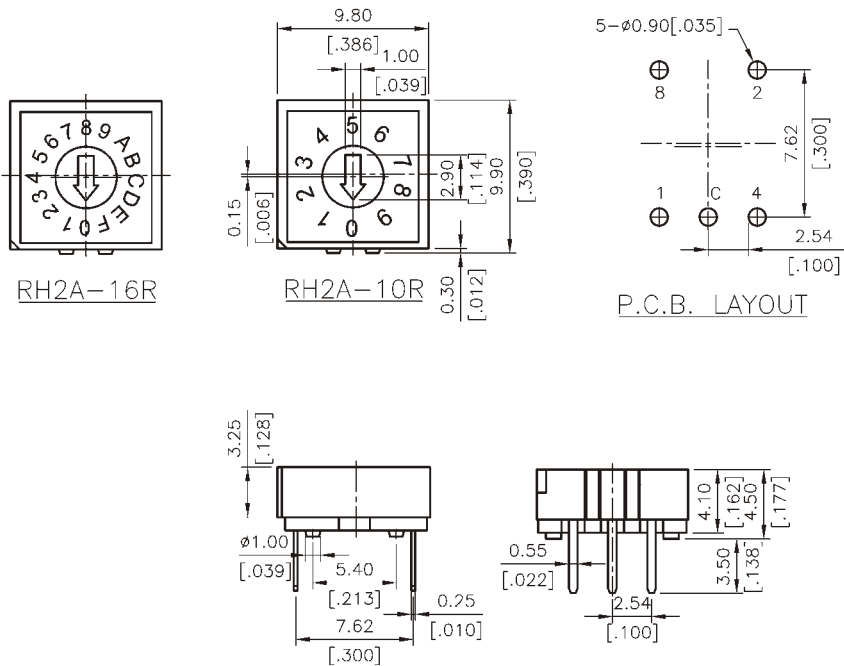
Tape and Reel:

750 pcs/reel (recessed actuator)

500 pcs/reel (3.2mm actuator)

250 pcs/reel (7.3mm actuator)

RH2



TYPE	POSITION	CODE			
		1	2	4	8
O10R	0	●	●	●	●
	1	○	●	●	●
	2	●	○	●	●
	3	○	○	●	●
	4	●	●	○	●
	5	○	●	○	●
	6	●	○	○	●
	7	○	○	○	●
	8	●	●	●	○
	9	○	●	●	○
O16R	A	●	○	●	○
	B	○	○	●	○
	C	●	●	○	○
	D	○	●	○	○
	E	●	○	○	○
	F	○	○	○	○

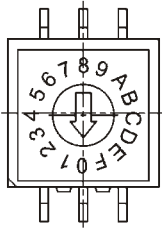
ROTARY CODED SWITCH

RH, RV, RM & RS SERIES

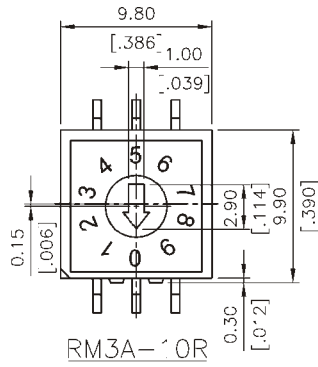
10x10mm Rotary Type



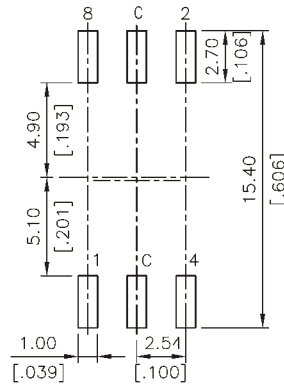
RM3



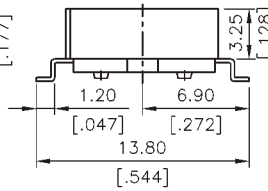
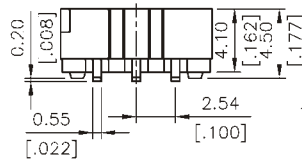
RM3A-16R



RM3A-10R



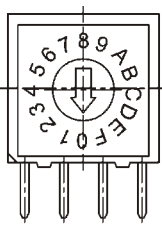
P.C.B. LAYOUT



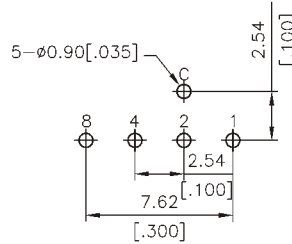
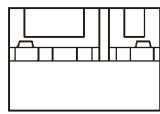
ON
● OFF

TYPE	POSITION	CODE			
		1	2	4	8
O10R	0	●	●	●	●
	1	○	○	●	●
	2	●	○	●	●
	3	○	○	●	●
	4	●	●	○	●
	5	○	●	○	●
	6	●	○	○	●
	7	○	○	○	●
	8	●	●	●	○
	9	○	●	●	○
O16R	A	●	○	●	○
	B	○	○	●	○
	C	●	●	○	○
	D	○	●	○	○
	E	●	○	○	○
	F	○	○	○	○

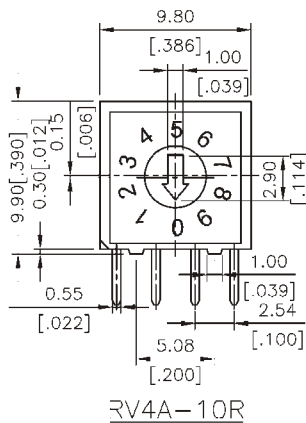
RV4



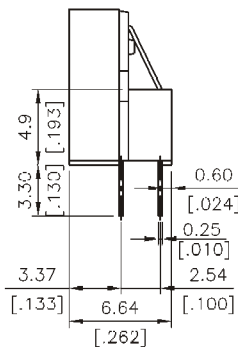
RV4A-16R



P.C.B. LAYOUT



RV4A-10R



ON
● OFF

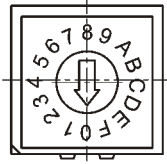
TYPE	POSITION	CODE			
		1	2	4	8
O10R	0	●	●	●	●
	1	○	●	●	●
	2	●	○	●	●
	3	○	○	●	●
	4	●	●	○	●
	5	○	●	○	●
	6	●	○	○	●
	7	○	○	○	●
	8	●	●	●	○
	9	○	●	●	○
O16R	A	●	○	●	○
	B	○	○	●	○
	C	●	●	○	○
	D	○	●	○	○
	E	●	○	○	○
	F	○	○	○	○

RH, RV, RM & RS SERIES

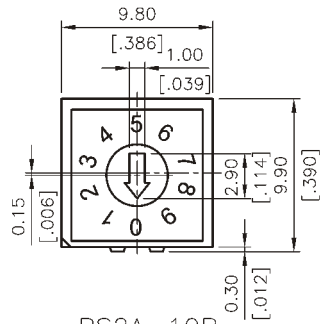
10x10mm Rotary Type



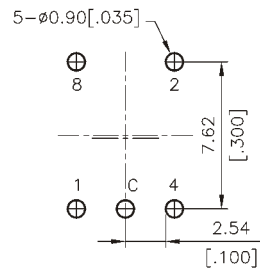
RS2



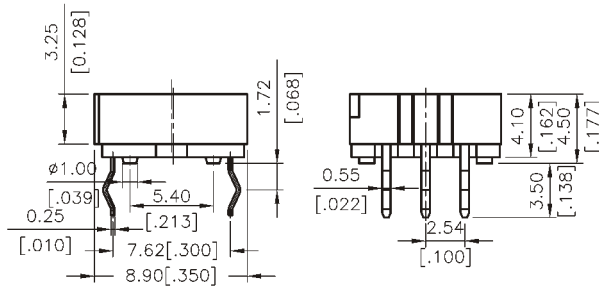
RS2A-16R



RS2A-10R



P.C.B. LAYOUT

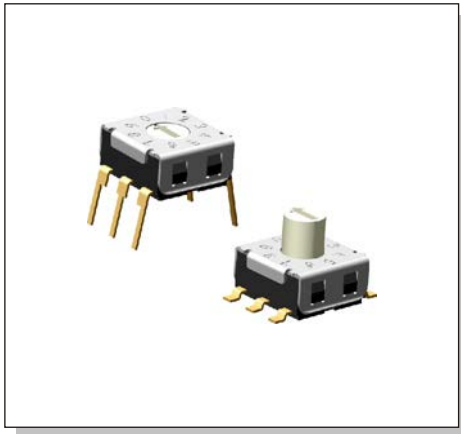


OON					
● OFF					
TYPE	POSITION	CODE			
		1	2	4	8
O10R	0	●	●	●	●
	1	○	●	●	●
	2	●	○	●	●
	3	○	○	●	●
	4	●	○	○	●
	5	○	●	○	●
	6	●	○	○	●
	7	○	○	○	●
	8	●	○	○	○
	9	○	●	●	○
O16R	A	●	○	●	○
	B	○	○	●	○
	C	●	○	○	○
	D	○	●	○	○
	E	●	○	○	○
	F	○	○	○	○

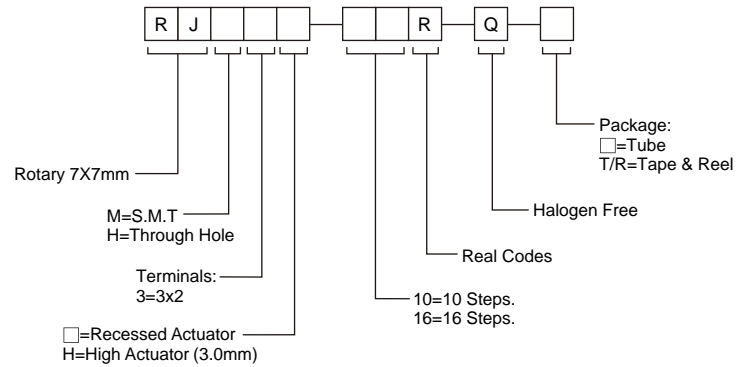
ROTARY CODED SWITCH

RJ SERIES

7x7mm New Circuit Rotary Type



HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force : 200gf-cm max

ENVIRONMENTAL

Operation Temperature Range: -40°C to +85°C

Storage Temperature Range: -40°C to +85°C

ELECTRICAL

Electrical Life: 20,000 steps

Switching Rating: 25 mA, 24 VDC

PACKAGE

RJM3: 1200 pcs/reel

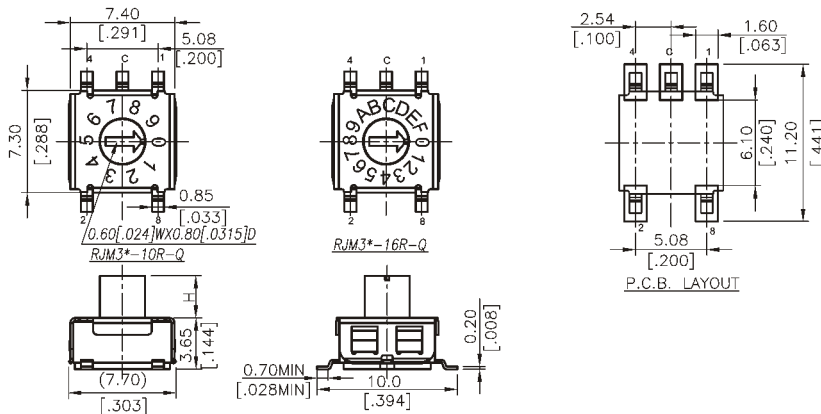
RJM3H: 650 pcs/reel

Tube: 62 pcs/tube

CIRCUIT

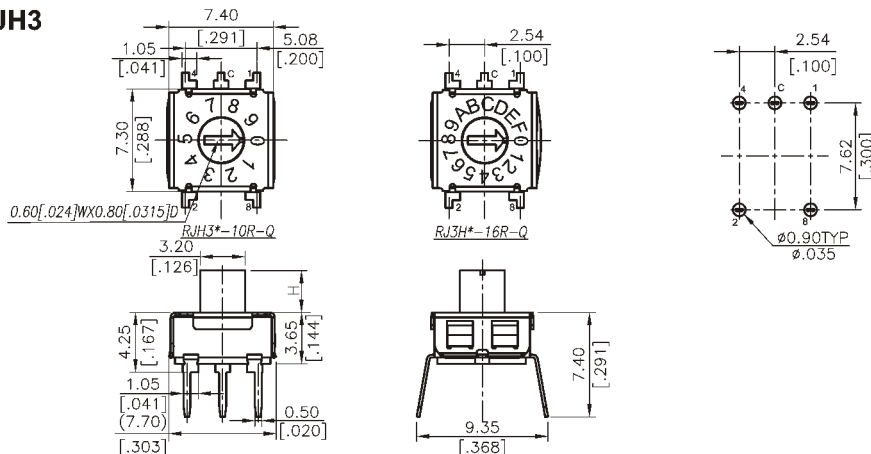
TYPE	POSITION	CODE			
		1	2	4	8
O10 STEP	0	●	●	●	●
	1	○	●	●	●
	2	●	○	●	●
	3	○	○	●	●
	4	●	●	○	●
	5	○	○	○	●
	6	●	○	○	●
	7	○	○	○	●
	8	●	●	●	○
	9	○	○	●	○
O16 STEP	A	●	○	○	○
	B	○	○	●	○
	C	●	●	○	○
	D	○	○	●	○
	E	●	○	○	○
	F	○	○	○	○

RJM3



NAME	H
RJM3-10R-Q	0
RJM3-16R-Q	3.0[.1181]
RJM3H-10R-Q	
RJM3H-16R-Q	

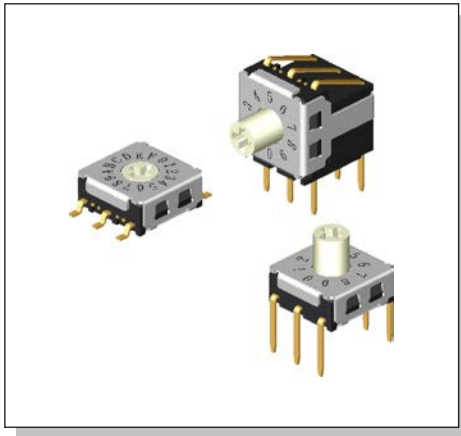
RJH3



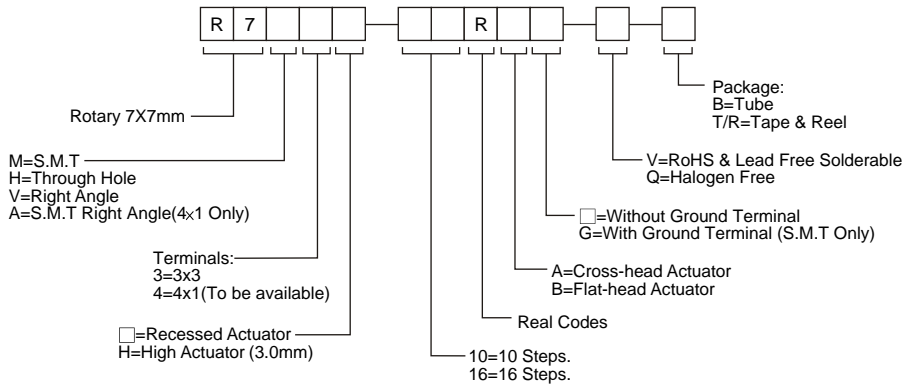
NAME	H
RJH3-10R-Q	0
RJH3-16R-Q	
RJH3H-10R-Q	3.00[.118]
RJH3H-16R-Q	

R7 SERIES

7x7mm Rotary Type



HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force : 200gf-cm max

ENVIRONMENTAL

Operation Temperature Range: -30°C to +80°C

Storage Temperature Range: -40°C to +85°C

ELECTRICAL

Electrical Life: 10,000 steps

Switching Rating: 25 mA, 24 VDC

PACKAGE

R7H, R7M: 63 pcs/tube

R7V: 60 pcs/tube

R7M*: 1450 pcs/reel

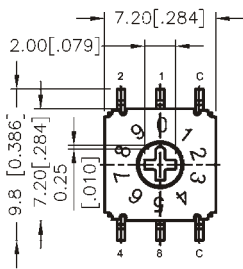
R7M*H: 850 pcs/reel

R7A: 750 pcs/reel

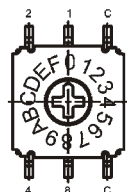
R7A4H: 750 pcs/reel

ROTARY CODED SWITCH

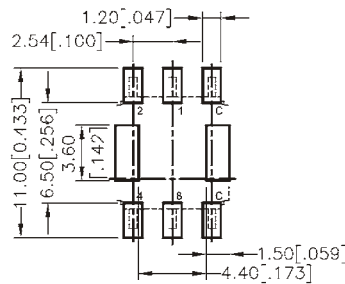
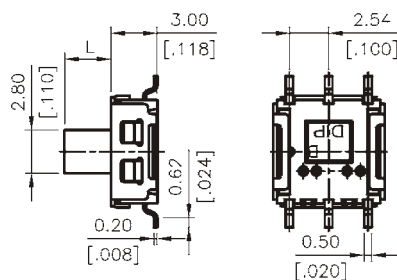
R7M3



R7M3*-10R



R7M3*-16R



P.C.B. _LAYOUT

		CODE				
TYPE		POSITION	1	2	4	8
○ON ●OFF	○10 STEP	0	●	●	●	●
		1	○	●	●	●
		2	●	○	●	●
		3	○	○	●	●
		4	●	●	○	●
		5	○	●	○	●
		6	●	○	○	●
		7	○	○	○	●
		8	●	●	●	○
		9	○	●	●	○
○16 STEP	A	●	○	●	○	
	B	○	○	●	○	
	C	●	●	○	○	
	D	○	●	○	○	
	E	●	○	○	○	
	F	○	○	○	○	

NAME	L
R7M3-10RAG	0
R7M3-16RAG	0
R7M3H-10RAG	3.00 [.118]
R7M3H-16RAG	3.00 [.118]

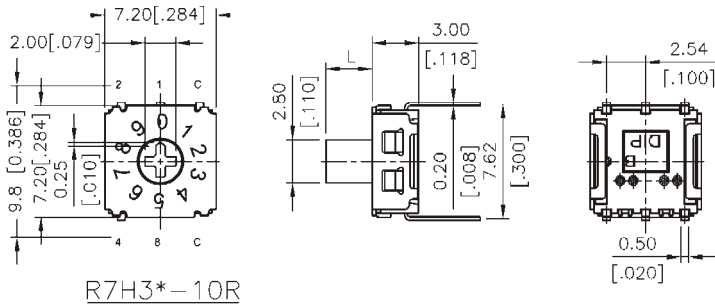
R7 SERIES

7x7mm Rotary Type

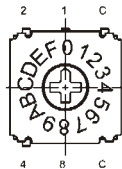


ROTARY CODED SWITCH

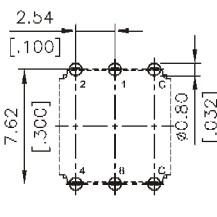
R7H3



R7H3* - 10R



R7H3* - 16R

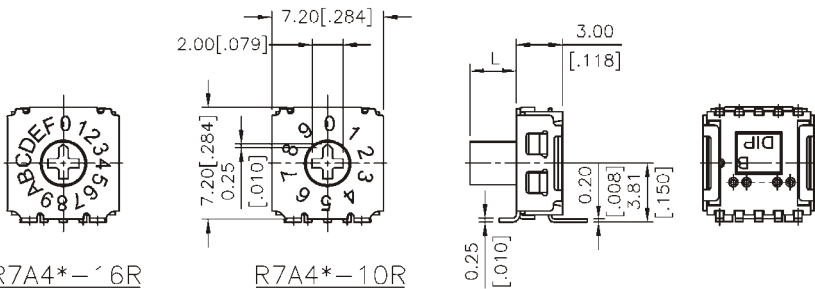


P.C.B. LAYOUT

OCN		CODE			
●OFF		1	2	4	8
TYPE	POSITION				
O10 STEP	0	●	●	●	●
	1	○	○	●	●
	2	●	○	●	●
	3	○	○	●	●
	4	●	●	○	●
	5	○	○	○	●
	6	●	○	○	●
	7	○	○	○	●
	8	○	●	●	○
	9	○	○	●	○
O16 STEP	A	●	○	●	○
	B	○	○	●	○
	C	●	●	○	○
	D	○	●	○	○
	E	●	○	○	○
	F	○	○	○	○

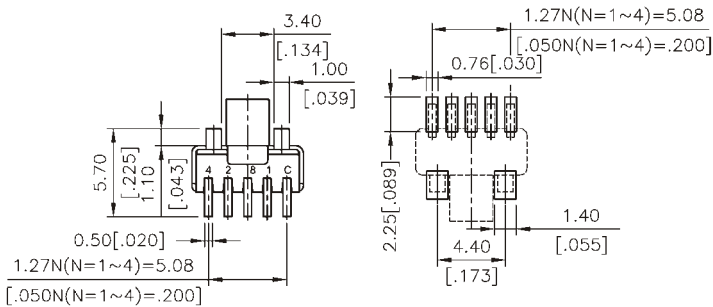
NAME	L
R7H3-10RAG	0
R7H3-16RAG	
R7H3H-10RAG	3.00[.118]
R7H3H-16RAG	

R7A4



R7A4* - 16R

R7A4* - 10R



P.C.B. LAYOUT

OCN		CODE			
●OFF		1	2	4	8
TYPE	POSITION				
O10 STEP	0	●	●	●	●
	1	○	○	●	●
	2	●	○	●	●
	3	○	○	●	●
	4	●	●	○	●
	5	○	○	○	●
	6	●	○	○	●
	7	○	○	○	●
	8	●	●	●	○
	9	○	○	●	○
O16 STEP	A	●	○	●	○
	B	○	○	●	○
	C	●	○	○	○
	D	○	●	○	○
	E	●	○	○	○
	F	○	○	○	○

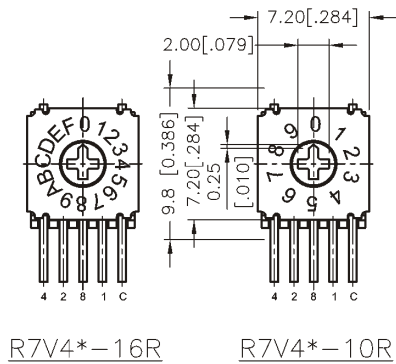
NAME	L
R7A4-10RA	0
R7A4-16RA	
R7A4H-10RA	3.00[.118]
R7A4H-16RA	

R7 SERIES

7x7mm Rotary Type

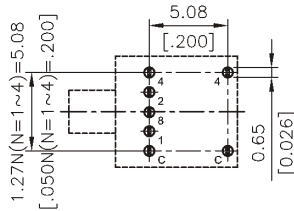
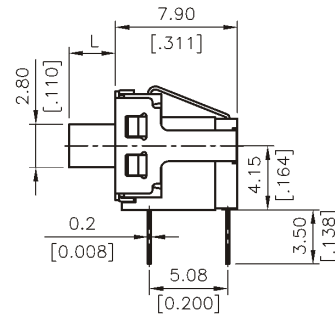
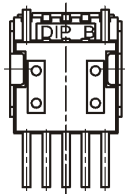


R7V4



R7V4* -16R

R7V4* -10R



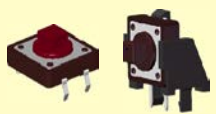


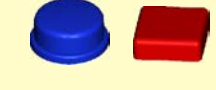



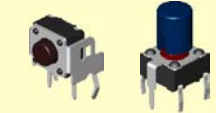


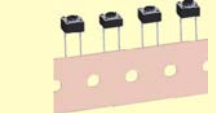








P.C.B. LAYOUT

		CODE			
TYPE	POSITION	1	2	4	8
O10 STEP	0	●	●	●	●
	1	○	●	●	●
	2	●	○	●	●
	3	○	○	●	●
	4	●	●	○	●
	5	○	●	○	●
	6	●	○	○	●
	7	○	○	○	●
	8	●	●	●	○
	9	○	●	●	○
O16 STEP	A	●	○	●	○
	B	○	○	●	○
	C	●	●	○	○
	D	○	●	○	○
	E	●	○	○	○
	F	○	○	○	○

NAME	L
R7V4-10RA	0
R7V4-16RA	3.00 [.118]
R7V4H-10RA	
R7V4H-16RA	

ROTARY CODED SWITCH

TACT SWITCH

	Series	Features	Page
	DTSA-2	Through Hole & Right Angle	47
	DTSM-2	SMT	49
	DTSG(P)-2	Ground Terminal	50
	KTSC-2	Cap for 12x12 Tact Switch	51
	TA3	SMT & Right Angle	52
	TA(S)-6	Washable	53
	DTS-6	Through Hole	54
	DTSA(G)-6	Right Angle	55
	DTSM(G)-6	SMT	57
	DTSU-6	Multiple	58
	DTST-6	Radial Taping	59
	KTSC-6	Cap for 6x6 Tact Switch	60
	DTS()W-2	Washable	61
	DTSHW-6	Washable	63
	DTS(G)MW-6	Washable	65
	DTSJW-6	Washable	67
	TA4 & TH4	Washable	69
	DTSYH-6	Thinner pitch 4.0mm	70
	DTS(G)ZM(P)-6	Thinner pitch 4.5mm	71

TACT SWITCH

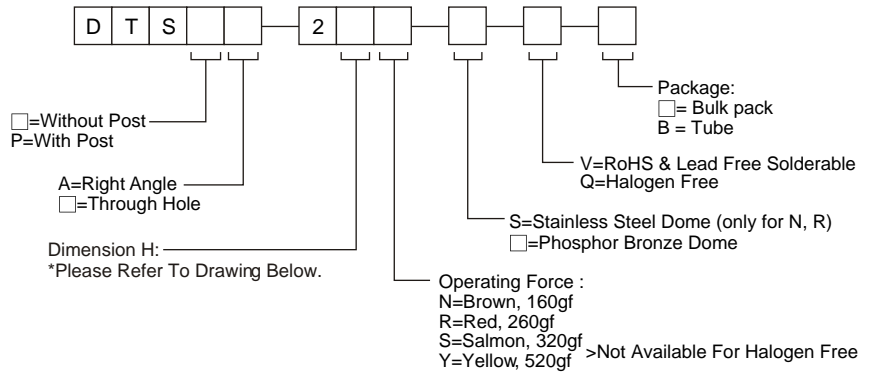
	Series	Features	Page
	DTS(G)L-6, DTS(G)F-6	Thinner pitch 4.0mm	72
	T3A	H:0.45mm / H:0.65mm	73
	T3B	H:0.35mm	74
	T4B	H:0.50mm	75
	TJ-4	H:0.55 mm	76
	TMG-5, TJG-5	H:1.5mm / H:0.8 mm	77
	LTL-6	Long travel 1.3mm	79
	TCE	Side Push Sealed	80
	TAC-3, TA(N)2-3	Side Push	81
	TCF	Side Push Mid-mount	83
	TAF	Side Push	84
	1188	Side Push	85
	DTS-3, DTSM(L)-3	Through Hole, SMT	87
	TAE	Vertical Push	89
	TMG / TJG-325	Thinner (H:2.5mm)	90
	IPT	Side / Vertical Push	91
	MPT	Side / Vertical Push	92
	PT(C)L, PT(C)F	Side / Vertical Push	93
	MTA	H: 1.8mm	95

DTS(A)-2 SERIES

12x12 Through Hole & Right Angle Type



HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force: 520 ± 130gf Yellow(Y)
 320 ± 80gf Salmon(S)
 260 ± 50gf Red(R)
 160 ± 50gf Brown(N)

Stroke : 0.35 ± 0.1mm

ENVIRONMENTAL

Operation Temperature Range : -25°C to +70°C
 Storage Temperature Range : -30°C to +80°C

ELECTRICAL

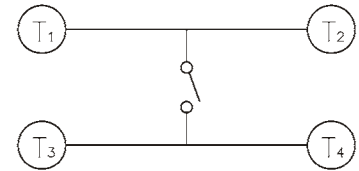
Electrical Life:
 *Phosphor Bronze Dome
 100,000 cycles for 520gf, 320gf, 260gf
 200,000 cycles for 160gf
 *Stainless Steel Dome
 300,000 cycles for 520gf, 320gf
 500,000 cycles for 260gf
 1,000,000 cycles for 100gf, 160gf
 Rating: 50mA , 12VDC

PACKAGE

DTS-2: 500 pcs/bag
 DTS-2: 40 pcs/tube
 DTSA-2: 250 pcs/bag

CIRCUIT

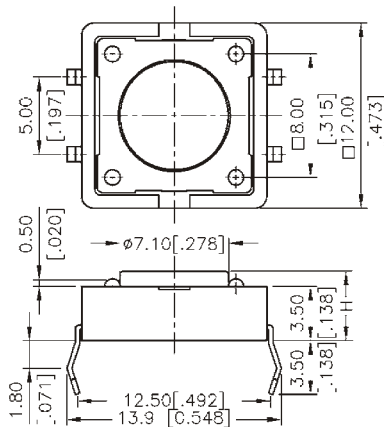
DTS(P)-2



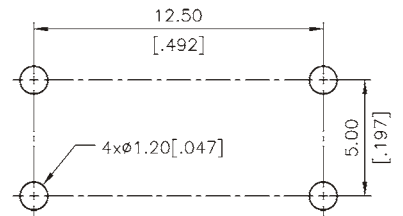
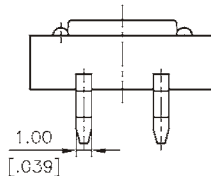
DTSA_2



DTS-21.25

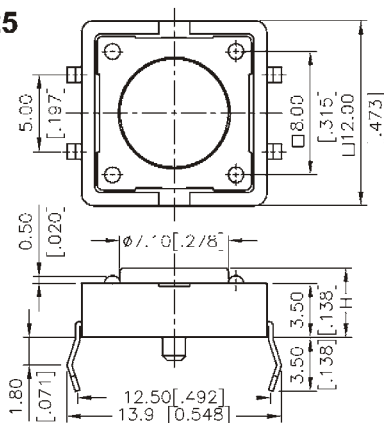


DTS-25 □	8.50 [.335]
DTS-21 □	4.30 [.169]
PROD. NO.	T

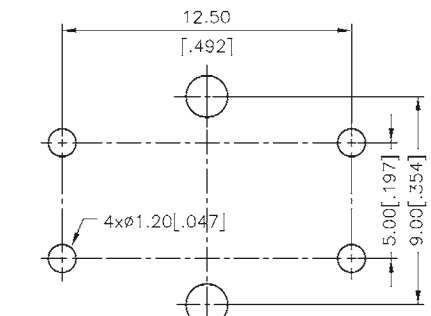
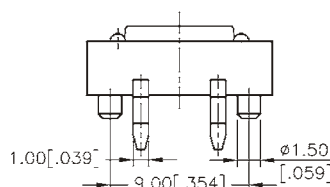


P.C.B LAYOUT

DTSP-21.25



DTS 25 □	8.50 [.335]
DTS-21 □	4.30 [.169]
PROD. NO.	T

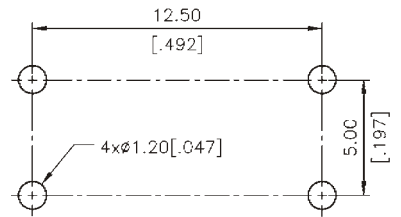
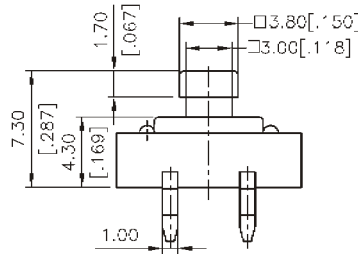
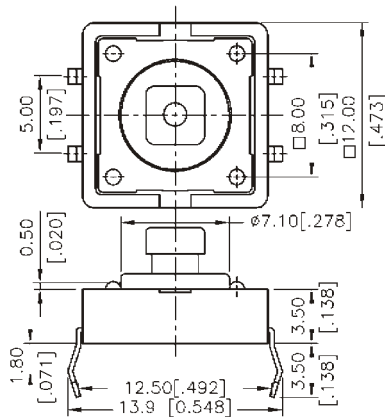


P.C.B LAYOUT

DTS(A)-2 SERIES

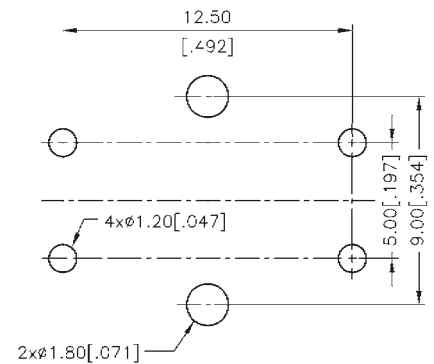
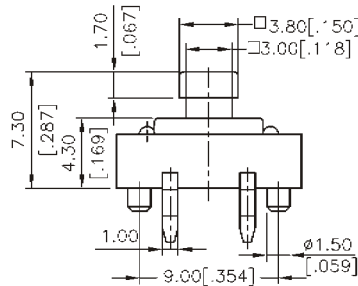
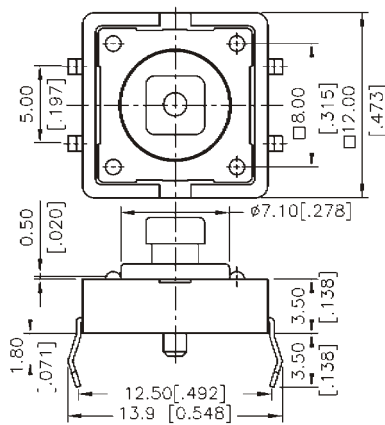
12x12 Through Hole & Right Angle Type

DTS-24



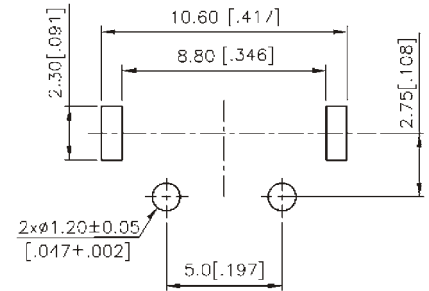
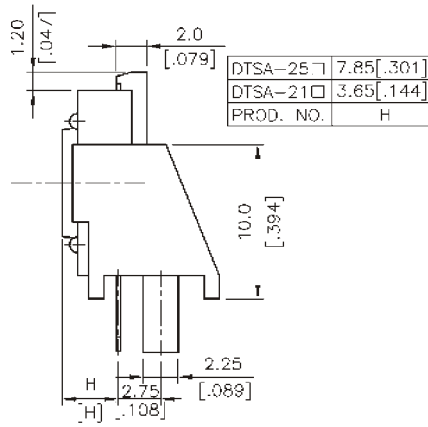
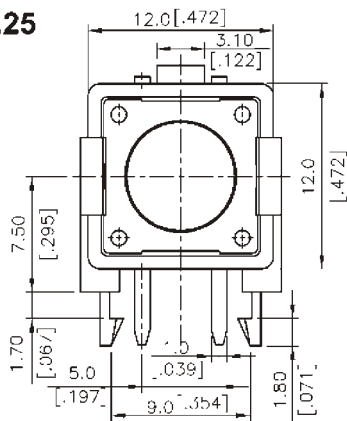
P.C.B LAYOUT

DTSP-24



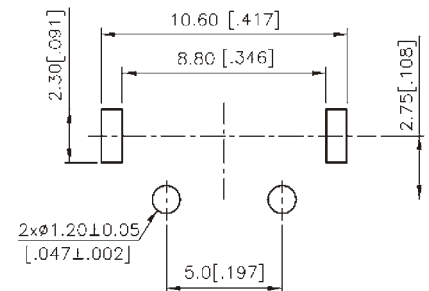
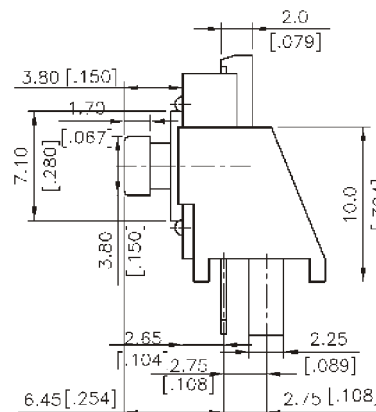
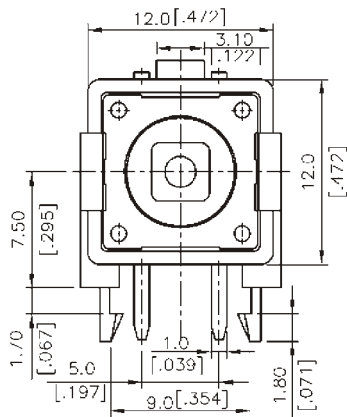
P.C.B LAYOUT

DTSA-21.25



P.C.B LAYOUT

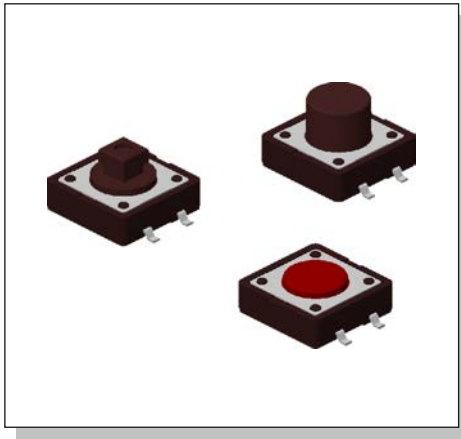
DTSA-24



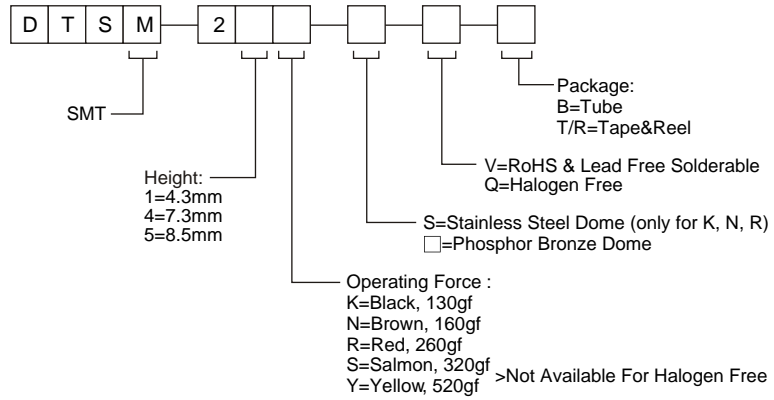
P.C.B LAYOUT

DTSM-2 SERIES

12x12 Surface Mounting Type



HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force: 520 ± 130gf Yellow(Y)
 320 ± 80gf Salmon (S)
 260 ± 50gf Red (R)
 160 ± 50gf Brown (N)
 Stroke: 0.35 ± 0.1mm

ENVIRONMENTAL

Operation Temperature: -25°C to +70°C
 Storage Temperature: -30°C to +80°C

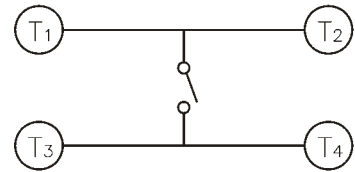
ELECTRICAL

Electrical Life:
 *Phosphor Bronze Dome
 100,000 cycles for 520gf, 320gf, 260gf
 200,000 cycles for 160gf
 *Stainless Steel Dome
 300,000 cycles for 520gf, 320gf
 500,000 cycles for 260gf
 1,000,000 cycles for 100gf, 160gf
 Rating: 50mA , 12VDC

PACKAGE

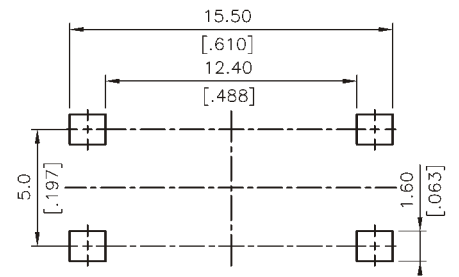
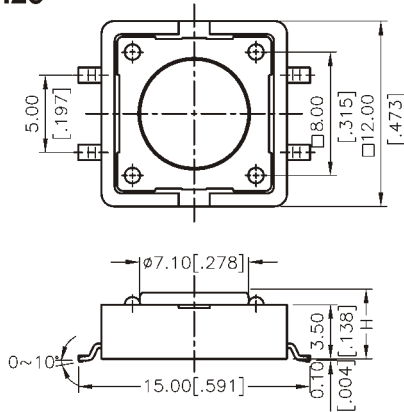
DTSM-2: 40 pcs/tube
 DTSM-21: 700 pcs/reel
 DTSM-24: 500 pcs/reel
 DTSM-25: 400 pcs/reel

CIRCUIT



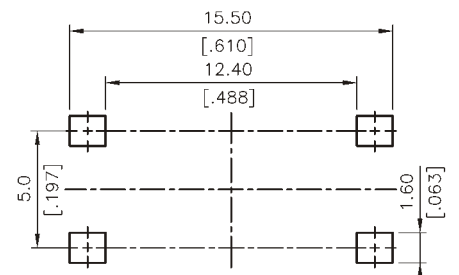
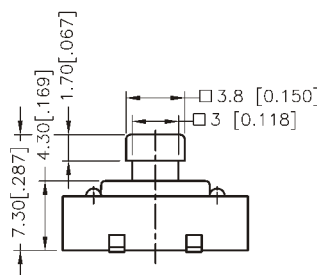
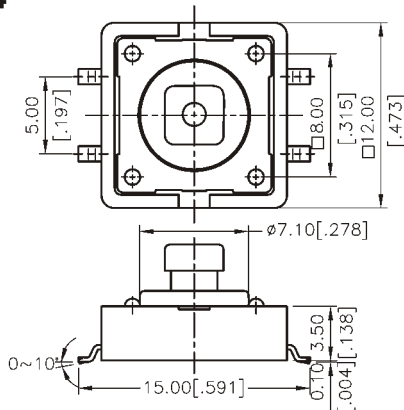
TACT SWITCH

DTSM-21.25



P.C.B. LAYOUT

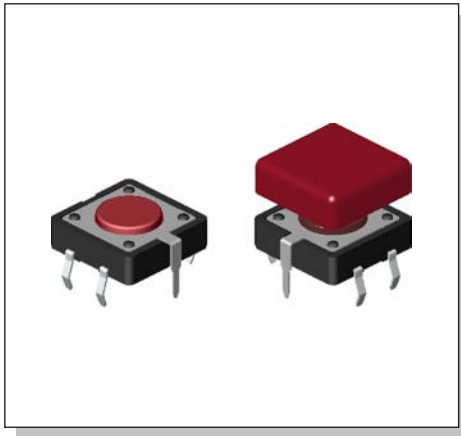
DTSM-24



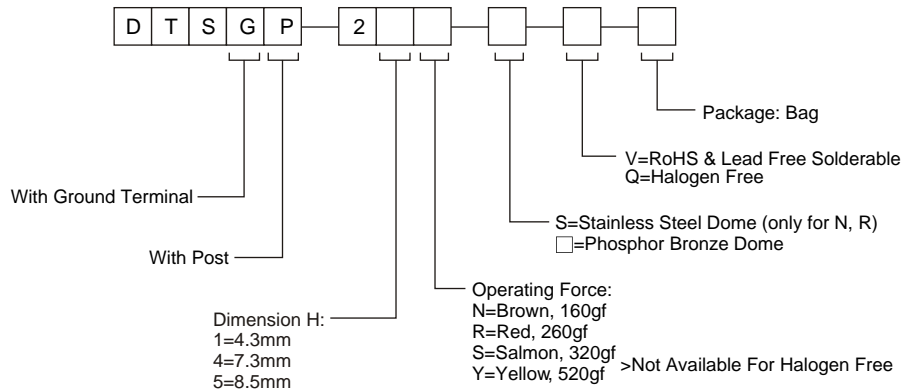
P.C.B. LAYOUT

DTSG(P)-2 SERIES

12x12 Through Hole With Ground Terminal Type



HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force: 520 ± 130gf Yellow(Y)
320 ± 80gf Salmon(S)
260 ± 50gf Red(R)
160 ± 50gf Brown(N)

Stroke : 0.35±0.1mm

ENVIRONMENTAL

Operation Temperature Range : -25°C to +70°C
Storage Temperature Range : -30°C to +80°C

ELECTRICAL

Electrical Life:

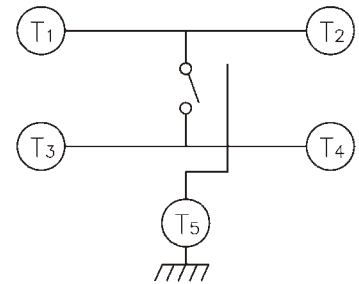
*Phosphor Bronze Dome
100,000 cycles for 520gf, 320gf, 260gf
200,000 cycles for 160gf
*Stainless Steel Dome
300,000 cycles for 520gf, 320gf
500,000 cycles for 260gf
1,000,000 cycles for 100gf, 160gf

Rating: 50mA , 12VDC

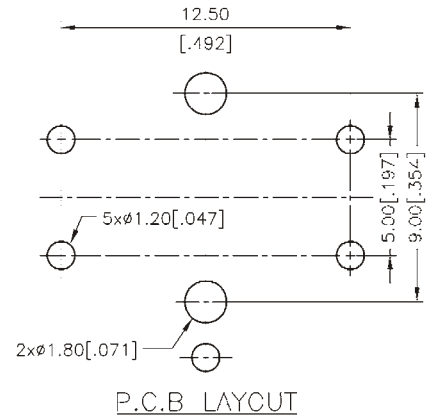
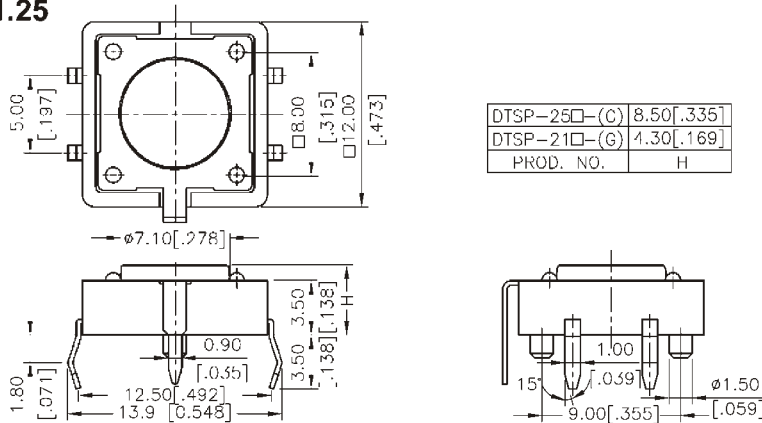
PACKAGE

500 pcs/bag

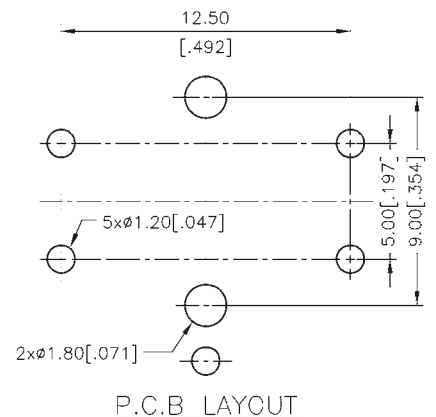
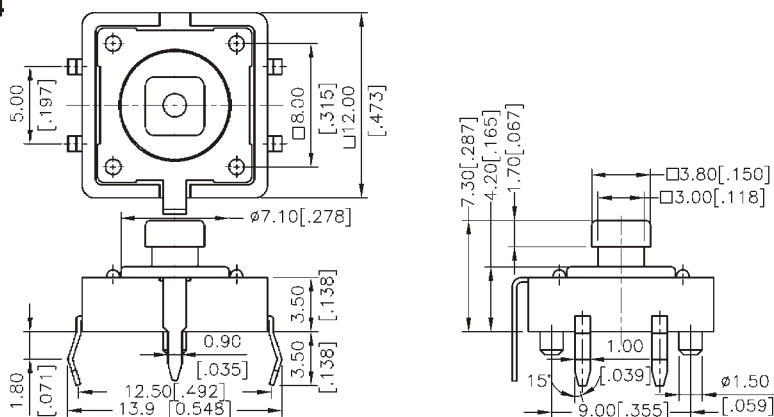
CIRCUIT



DTSGP-21.25



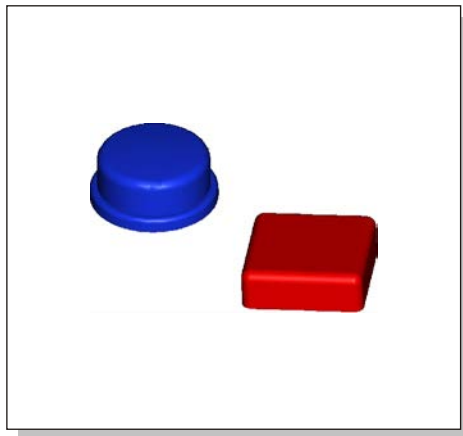
DTSGP-24



TACT SWITCH

KTSC-2 SERIES

Cap Available for Square Stem



HOW TO ORDER



- Cap color :
 Y = Yellow
 B = Blue
 R = Red
 I = Ivory
 K = Black
 G = Green
 S = Salmon
 Ge = Gray

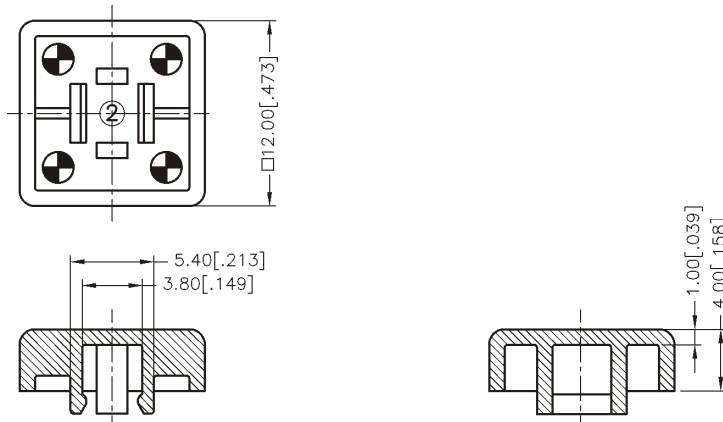
Prod. Size : <Tactile Switch>
 2 = 12X12 mm

Cap Type :
 1 = Square
 2 = Round

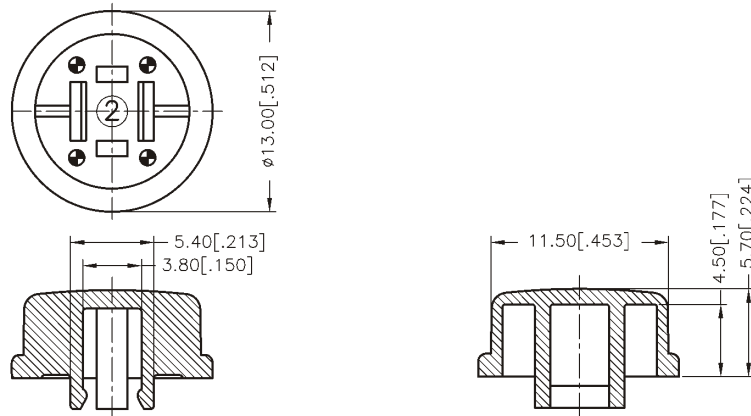
* KTSC-2 can be applied on DTS□-24.
PACKAGE: 500 pcs/bag

TACT SWITCH

KTSC-21

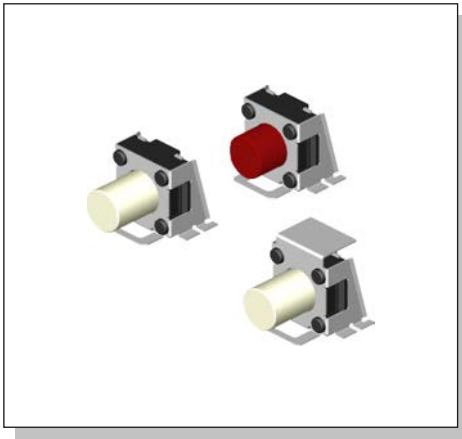


KTSC-22

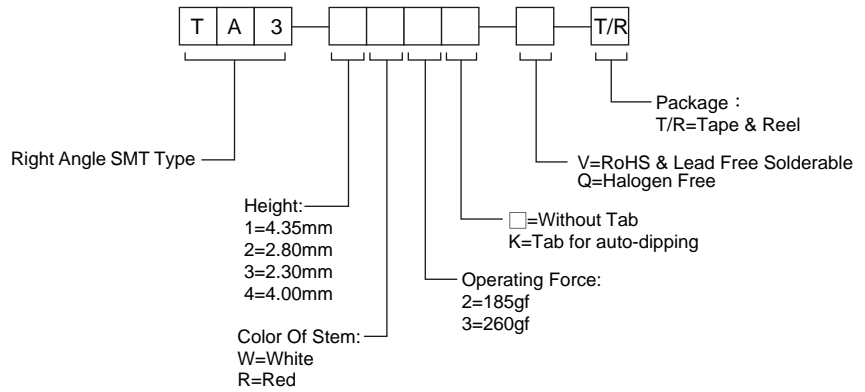


TA3 SERIES

6x6 Side Push Type With Supporting Terminal & Tab Available



HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force : 260±50gf, Red(R)
185±50gf, White(W)
Stroke : 0.15mm Min

ENVIRONMENTAL

Operation Temperature Range : -25°C to +70°C
Storage Temperature Range : -30°C to +80°C
Sealed IP57

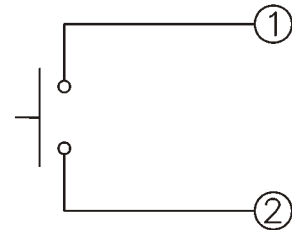
ELECTRICAL

Electrical Life : 200,000 cycles
Rating : 1.5mA, 5VDC

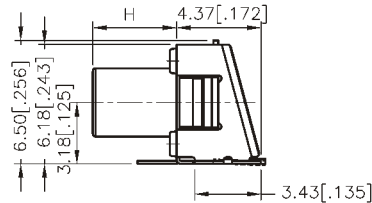
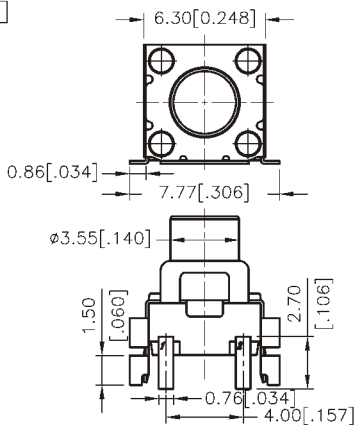
PACKAGE

TA3-1W2, 2W2, 1R3, 2R3: 600 pcs/reel
TA3-1W2K, 2W2K: 550 pcs/reel
TA3-1R3K, 2R3K: 550 pcs/reel

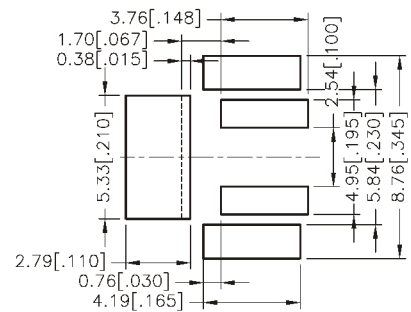
CIRCUIT



TA3-□□

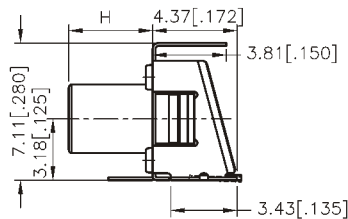
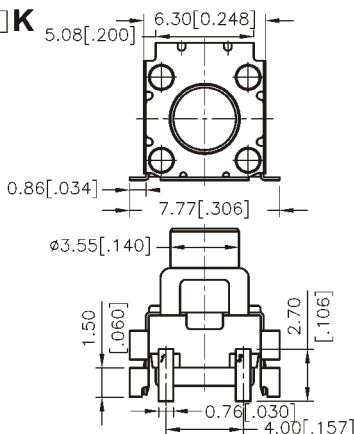


TA3-1□□	4.35[.171]
TA3-2□□	2.80[.110]
TA3-3□□	2.30[.090]
TA3-4□□	4.00[.157]
PART NO.	H

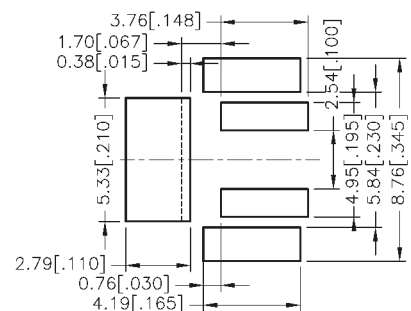


P.C.B LAYOUT

TA3-□□K



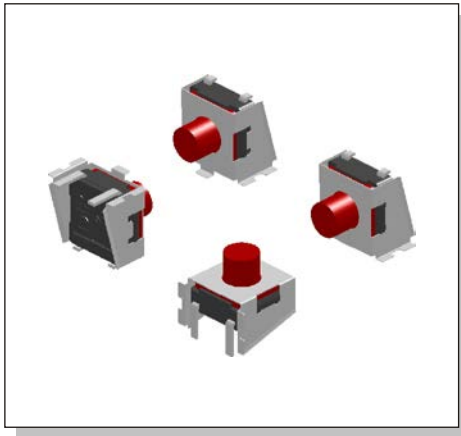
TA3-1□□K	4.35[.171]
TA3-2□□K	2.80[.110]
TA3-3□□K	2.30[.090]
TA3-4□□K	4.00[.157]
PART NO.	H



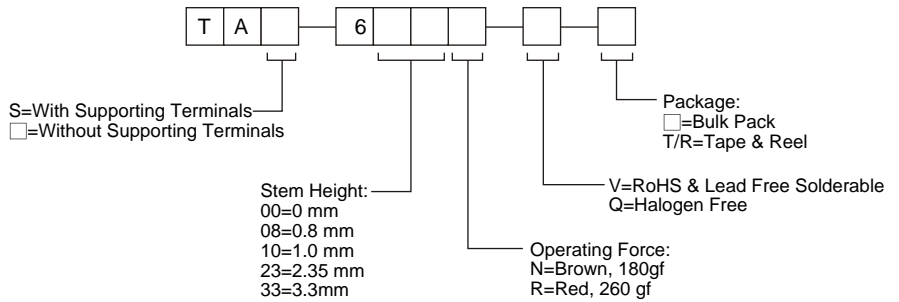
P.C.B LAYOUT

TA(S)-6 SERIES

6x6 SMT & Side Push Washable Type



HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force: 260±70gf (Red)
 180±50gf (Brown)
 Stroke: 0.45±0.2mm.

ENVIRONMENTAL

Operation Temperature Range : -25°C to +70°C
 Storage Temperature Range : -30°C to +80°C

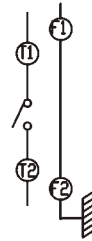
ELECTRICAL

Electrical Life: 500,000 cycles.
 Rating: 50mA, 12VDC.

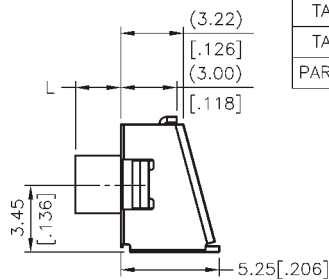
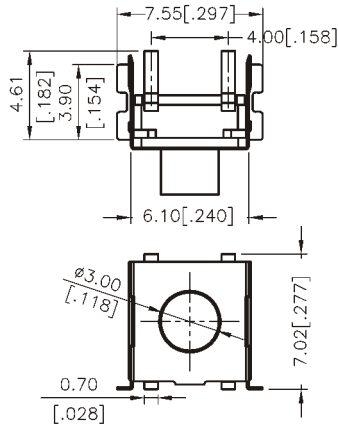
PACKAGE

500 pcs/bag
 TA(S)-600-T/R: 700 pcs/reel
 TA(S)-608-T/R: 700 pcs/reel
 TA(S)-610-T/R: 700 pcs/reel
 TA(S)-623-T/R: 700 pcs/reel
 TA(S)-633-T/R: 500 pcs/reel

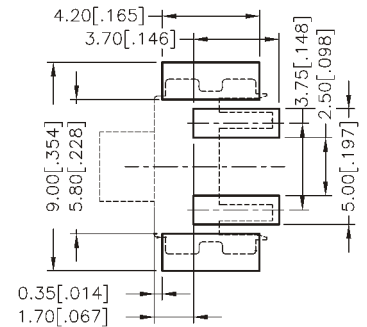
CIRCUIT



TA-6

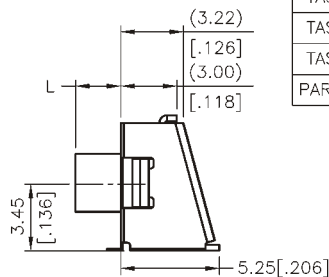
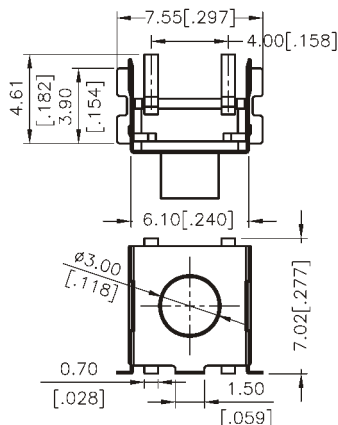


TA-600	0.00[.000]
TA-608	0.80[.031]
TA-610	1.00[.039]
TA-623	2.35[.092]
TA-633	3.30[.129]
PART NO.	H

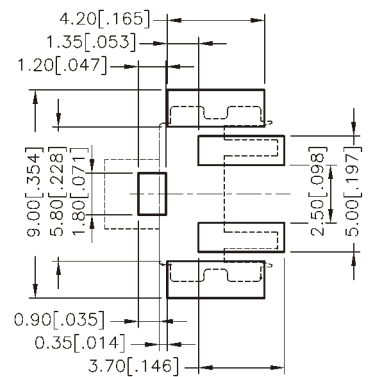


P.C.B LAYOUT

TAS-6



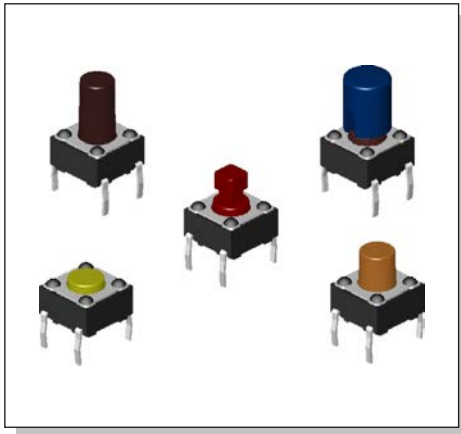
TAS-600	0.00[.000]
TAS-608	0.80[.031]
TAS-610	1.00[.039]
TAS-623	2.35[.092]
TAS-633	3.30[.129]
PART NO.	H



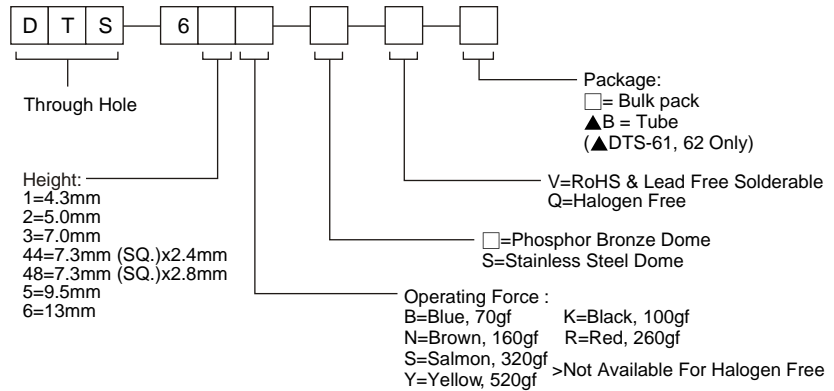
P.C.B LAYOUT

DTS-6 SERIES

6x6 Through Hole Type



HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force: 520 ± 130gf Yellow(Y)
 320 ± 80gf Salmon(S)
 260 ± 50gf Red(R)
 160 ± 50gf Brown(N)
 100 ± 50gf Black(K)

Stroke : 0.25+0.2/-0.1mm

ENVIRONMENTAL

Operation Temperature Range : -25°C to +70°C
 Storage Temperature Range : -30°C to +80°C

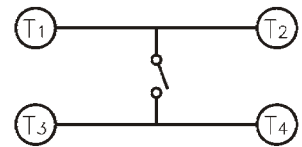
ELECTRICAL

Electrical Life:
 *Phosphor Bronze Dome
 50,000 cycles for 320gf, 520gf
 100,000 cycles for 260gf
 200,000 cycles for 70gf, 100gf, 160gf
 *Stainless Steel Dome
 300,000 cycles for 320gf, 520gf
 500,000 cycles for 260gf
 1,000,000 cycles for 70gf, 100gf, 160gf
 Rating: 50mA , 12VDC

PACKAGE

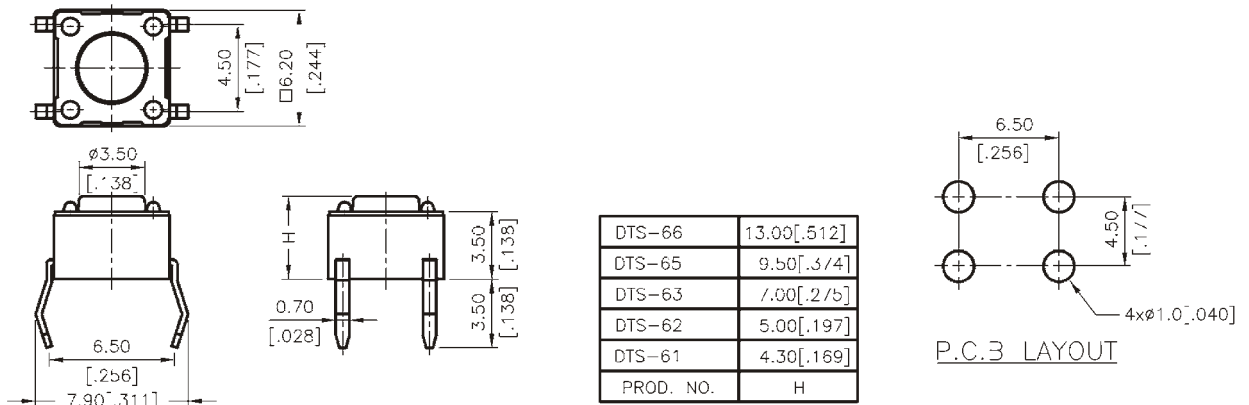
DTS-6: 1000 pcs/bag
 DTS-61/62: 77 pcs/tube

CIRCUIT

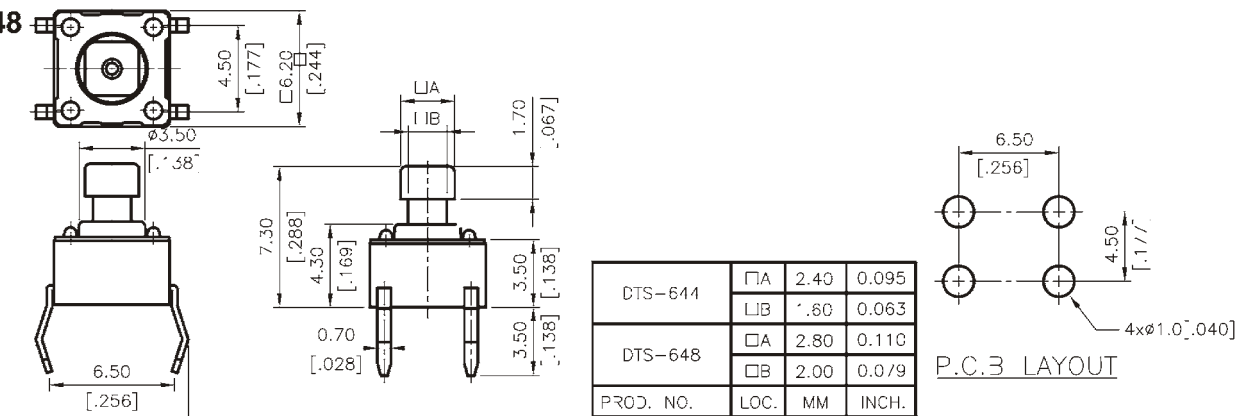


TACT SWITCH

DTS-61~66

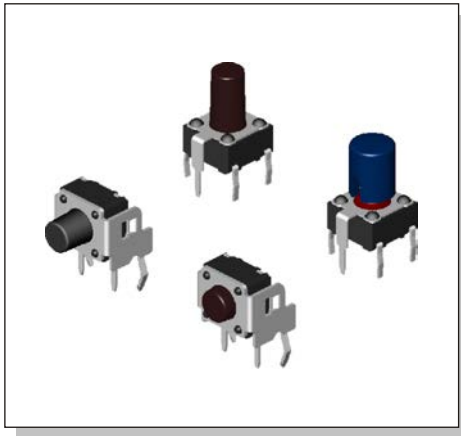


DTS-644,648

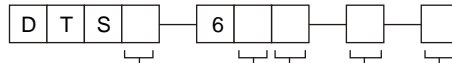


DTSA-6 & DTSG-6 SERIES

6x6 Right Angle & Ground Terminal Type



HOW TO ORDER



A = Right Angle
 G = With Ground Terminal
 AG=Right Angle & Ground Terminal
 AMG=SMT & Ground Terminal

V=RoHS & Lead Free Solderable
 Q=Halogen Free

[]=Phosphor Bronze Dome
 S=Stainless Steel Dome

Dimension H: _____
 *Please Refer To Drawing Below.

Operating Force :
 K = Black, 100gf
 N = Brown, 160gf
 R = Red, 260gf
 S = Salmon, 320gf
 Y = Yellow, 520gf >Not Available For Halogen Free

SPECIFICATION

MECHANICAL

Operation Force: 520 ± 130gf Yellow(Y)
 320 ± 80gf Salmon(S)
 260 ± 50gf Red(R)
 160 ± 50gf Brown(N)
 100 ± 50gf Black(K)

Stroke : 0.25±0.2/-0.1mm

ENVIRONMENTAL

Operation Temperature Range : -25°C to +70°C
 Storage Temperature Range : -30°C to +80°C

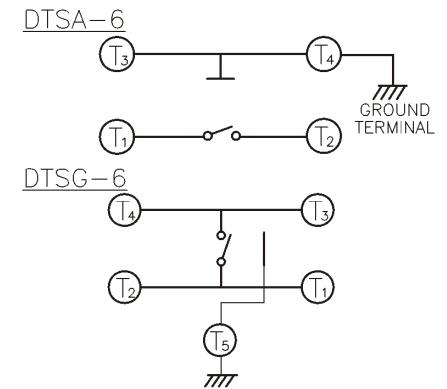
ELECTRICAL

Electrical Life:
 *Phosphor Bronze Dome
 50,000 cycles for 320gf, 520gf
 100,000 cycles for 260gf
 200,000 cycles for 100gf, 160gf
 *Stainless Steel Dome
 300,000 cycles for 320gf, 520gf
 500,000 cycles for 260gf
 1,000,000 cycles for 100gf, 160gf
 Rating: 50mA , 12VDC

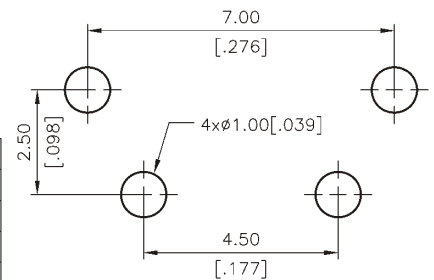
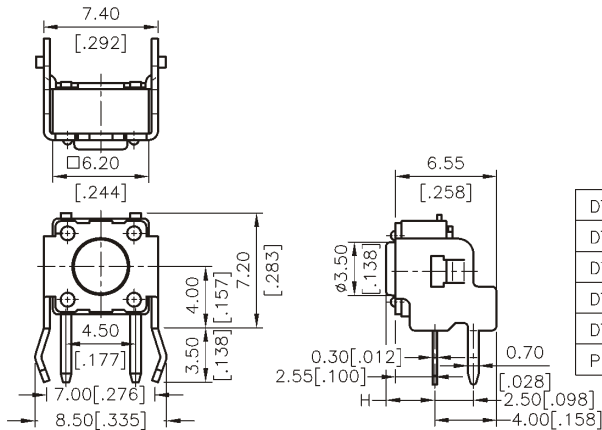
PACKAGE

DTSA(G)-6: 500 pcs/bag
 DTSG-6: 1000 pcs/bag
 DTSAMG-6: To be confirmed.

CIRCUIT

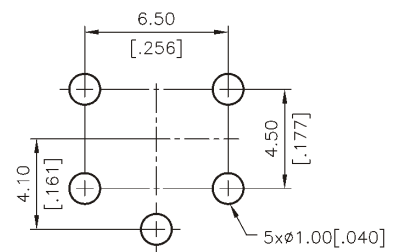
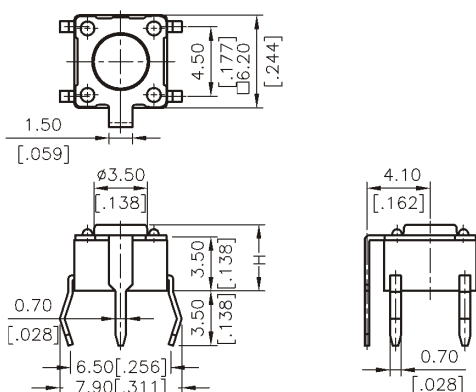


DTSA-6



P.C.B. LAYOUT

DTSG-6

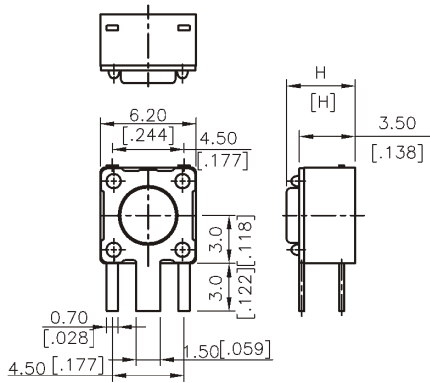


P.C.B. LAYOUT

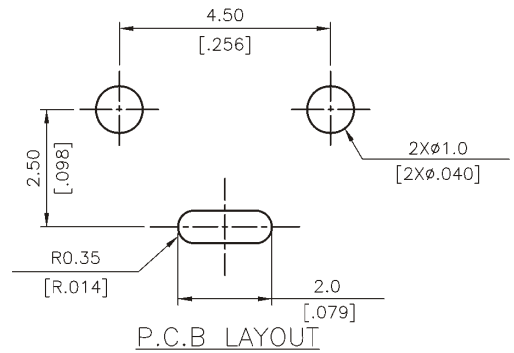
DTSA-6 & DTSG-6 SERIES

6x6 Right Angle & Ground Terminal Type

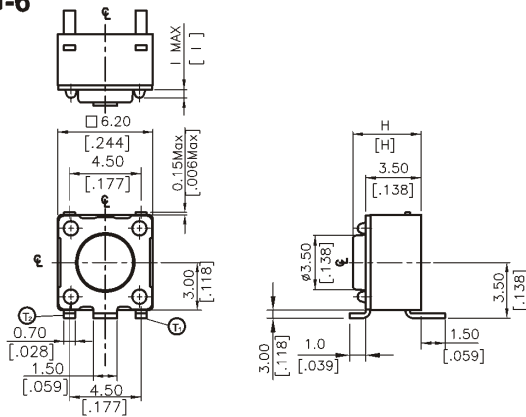
DTSAG-6



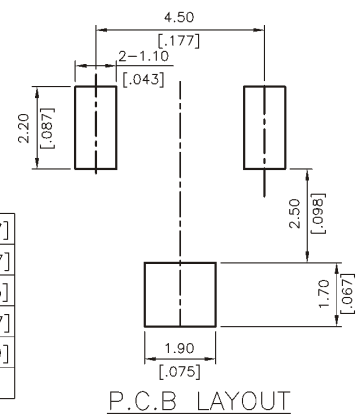
DTSAG-66	13.0 [.512]
DTSAG-65	9.50 [.374]
DTSAG-648	7.30 [.287]
DTSAG-644	7.30 [.287]
DTSAG-63	7.0 [.275]
DTSAG-62	5.0 [.197]
DTSAG-61	4.30 [.169]
PROD. NO.	H



DTSAMG-6

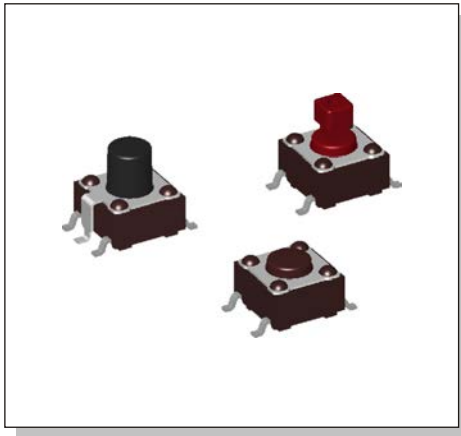


DTSAMG-648	7.30 [.287]
DTSAMG-644	7.30 [.287]
DTSAMG-63	7.0 [.275]
DTSAMG-62	5.0 [.197]
DTSAMG-61	4.30 [.169]
PROD. NO.	H

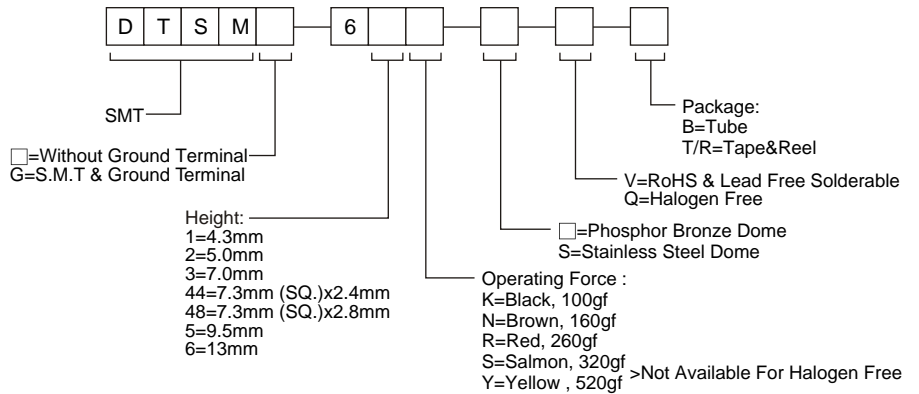


DTSM(G)-6 SERIES

6x6 Surface Mounting Type (Ground Terminal Optional)



HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force: 520 ± 130gf Yellow (Y)
 320 ± 80gf Salmon (S)
 260 ± 50gf Red (R)
 160 ± 50gf Brown (N)
 100 ± 50gf Black (K)

Stroke: 0.25 +0.2mm / -0.1mm

ENVIRONMENTAL

Operation Temperature: -25°C to +70°C
 Storage Temperature: -30°C to +80°C

ELECTRICAL

Electrical Life: *Phosphor Bronze Dome
 50,000 cycles for 320gf, 520gf
 100,000 cycles for 260gf
 200,000 cycles for 100gf, 160gf
 *Stainless Steel Dome
 300,000 cycles for 320gf, 520gf
 500,000 cycles for 260gf
 1,000,000 cycles for 100gf, 160gf

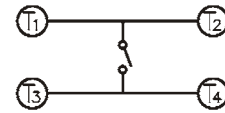
Rating: 50mA, 12VDC

PACKAGE

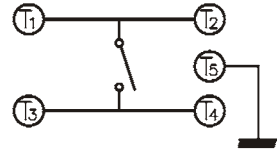
DTSM(G)-61:1000 pcs/reel
 DTSM-62:900 pcs/reel
 DTSMG-62:1000 pcs/reel
 DTSM(G)-63, 64:700 pcs/reel
 DTSM(G)-65:380 pcs/reel
 DTSM-66:200 pcs/reel
 77 pcs/tube

CIRCUIT

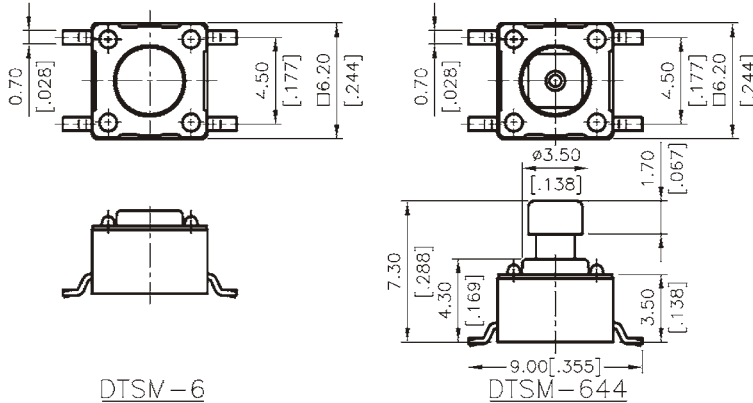
DTSM-6



DTSMG-6

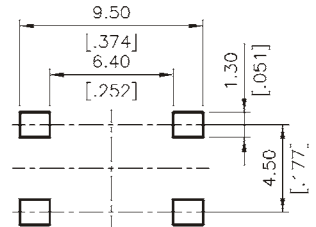


DTSM-6



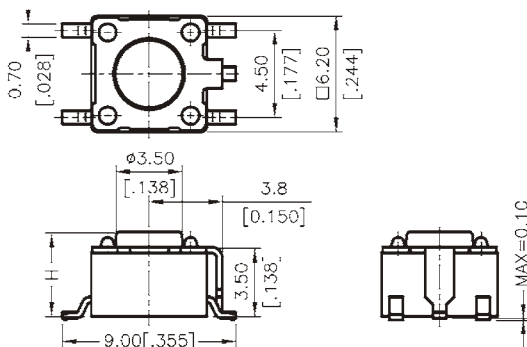
DTSM-644	□A	2.40	0.095
	□B	1.60	0.063
DTSM-648	□A	2.80	0.110
	□B	2.00	0.079
PROD. NO.	LOC.	MM	INCH.

DTSM-66	13.00	[.512]
DTSM-65	9.50	[.374]
DTSM-63	7.00	[.275]
DTSM-62	5.00	[.197]
DTSM-61	4.30	[.169]
PROD. NO.	H	

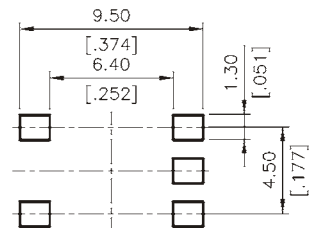


P.C.B. LAYOUT

DTSMG-6



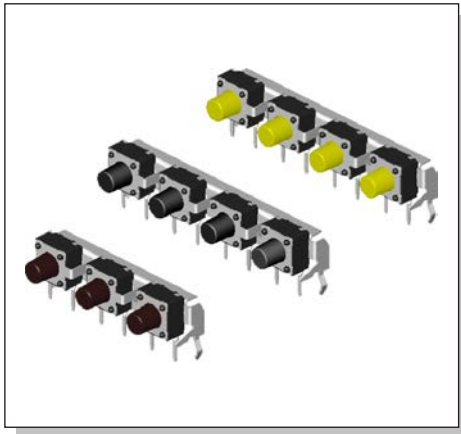
DTSMG-66	13.00	[.512]
DTSMG-65	9.50	[.374]
DTSMG-63	7.00	[.275]
DTSMG-62	5.00	[.197]
DTSMG-61	4.30	[.169]
PROD. NO.	H	



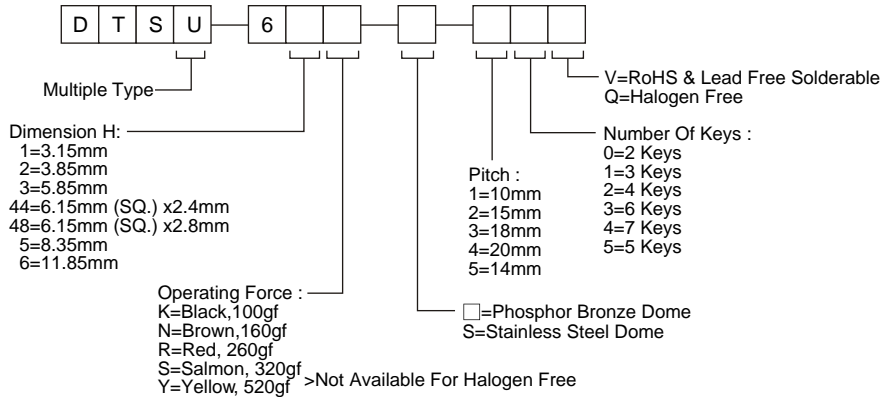
P.C.B. LAYOUT

DTSU-6 SERIES

6x6 Multiple Type



HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force: 520+130gf Yellow (Y)
 320+80gf Salmon (S)
 260+50gf Red (R)
 160+50gf Brown (N)
 100+50gf Black (K)

Stroke : 0.25+0.2mm/-0.1mm

ENVIRONMENTAL

Operation Temperature Range : -25°C to +70°C
 Storage Temperature Range : -30°C to +80°C

ELECTRICAL

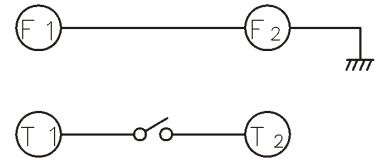
Electrical Life: *Phosphor Bronze Dome
 50,000 cycles for 320gf, 520gf
 100,000 cycles for 260gf
 200,000 cycles for 100gf, 160gf
 *Stainless Steel Dome
 300,000 cycles for 320gf, 520gf
 500,000 cycles for 260gf
 1,000,000 cycles for 100gf, 160gf

Rating: 50mA , 12VDC

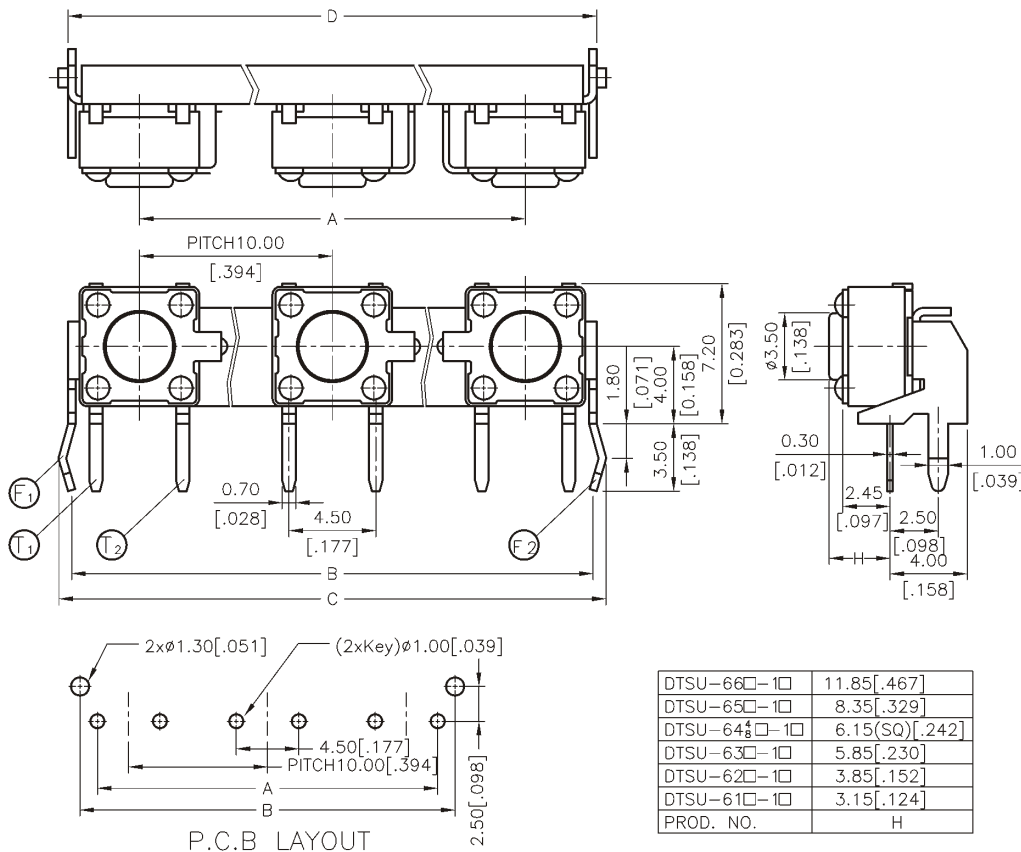
PACKAGE

DTSU-62-10: 190 pcs/set
 DTSU-62-11: 70 pcs/set
 DTSU-62-12: 56 pcs/set
 DTSU-62-13: 32 pcs/set
 DTSU-62-14: 57 pcs/set
 DTSU-62-15: 76 pcs/set
 DTSU-62-20: 90 pcs/set
 DTSU-62-21: 76 pcs/set
 DTSU-62-22: 57 pcs/set
 DTSU-62-23: 26 pcs/set
 DTSU-62-31: 76 pcs/set
 DTSU-62-32: 42 pcs/set
 DTSU-62-33: 38 pcs/set
 DTSU-62-42: 38 pcs/set
 DTSU-62-52: 40 pcs/set

CIRCUIT



DTSU-6

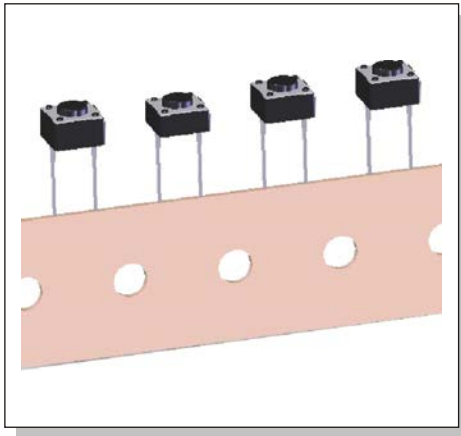


10	2	10	17	18.7	17.4
	3	20	27	28.7	27.4
	4	30	37	38.7	37.4
	5	40	47	48.7	47.4
	6	50	57	58.7	57.4
	7	60	67	68.7	67.4
	14	2	14	22	23.5
3		28	36	37.5	36.4
4		42	50	51.5	50.4
5		56	64	65.5	64.4
15	2	15	22	23.7	22.4
	3	30	37	38.7	37.4
	4	45	52	53.7	52.4
	5	60	67	68.7	67.4
18	2	18	25	26.7	25.4
	3	36	43	44.7	43.4
	4	54	61	62.7	61.4
	5	72	79	80.7	79.4
20	2	20	27	28.7	27.4
	3	40	47	48.7	47.4
	4	60	67	68.7	67.4
	5	80	87	88.7	87.4
PITCH (mm)	6	100	107	108.7	107.4
	7	120	127	128.7	127.4
Q'TY Of Keys	A DIM	B DIM	C DIM	D DIM	

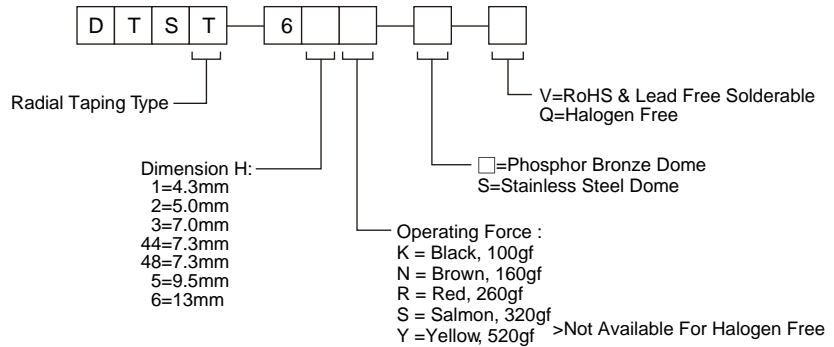
TACT SWITCH

DTST-6 SERIES

6x6 Radial Taping Type



HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force: 520 ± 130gf Yellow(Y)
 320 ± 80gf Salmon(S)
 260 ± 50gf Red(R)
 160 ± 50gf Brown(N)
 100 ± 50gf Black(K)

Stroke : 0.25+0.2/-0.1mm

ENVIRONMENTAL

Operation Temperature Range : -25°C to +70°C
 Storage Temperature Range : -30°C to +80°C

ELECTRICAL

Electrical Life:
 *Phosphor Bronze Dome
 50,000 cycles for 320gf, 520gf
 100,000 cycles for 260gf
 200,000 cycles for 100gf, 160gf
 *Stainless Steel Dome
 300,000 cycles for 320gf, 520gf
 500,000 cycles for 260gf
 1,000,000 cycles for 100gf, 160gf
 Rating: 50mA , 12VDC

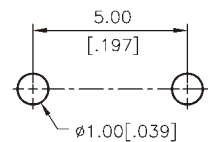
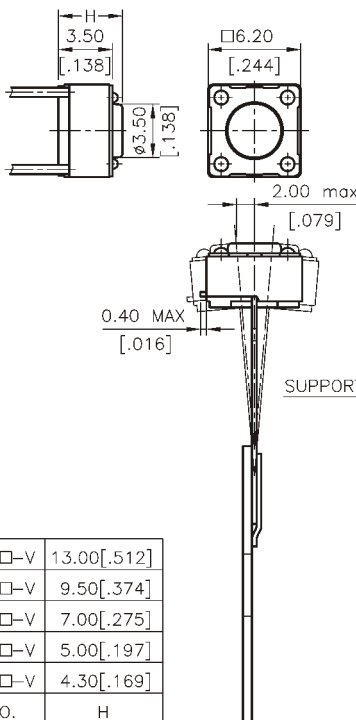
PACKAGE

900 pcs/box
 9 boxes/Carton

CIRCUIT

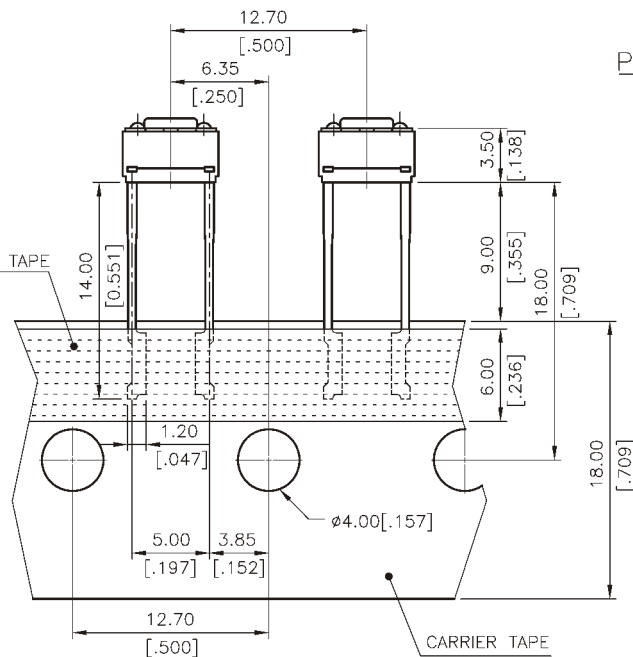


DTST-6



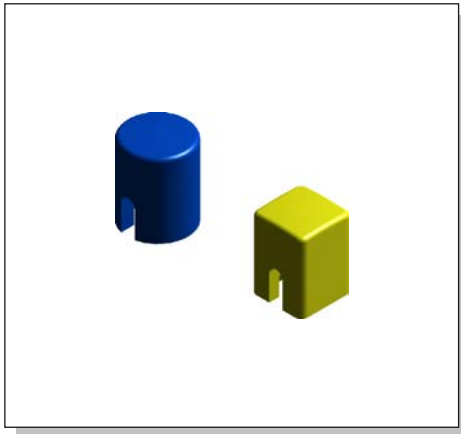
P.C.B. LAYOUT

DTST-66□-V	13.00[.512]
DTST-65□-V	9.50[.374]
DTST-63□-V	7.00[.275]
DTST-62□-V	5.00[.197]
DTST-61□-V	4.30[.169]
PROD. NO.	H

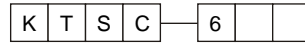


KTSC-6 SERIES

Cap Available for Square Stem



HOW TO ORDER



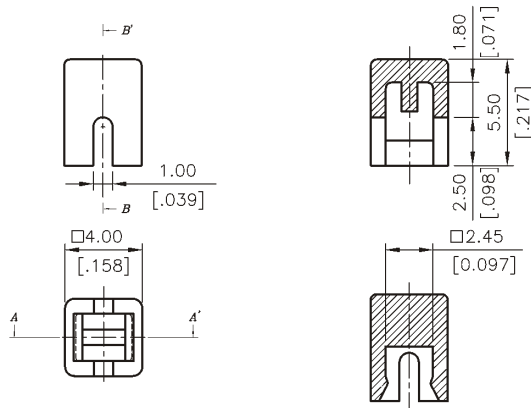
Prod. Size : <Tactile Switch>
 6 = 6X6 mm
 ▲ < DTS□-644 Only >
 ▲ <Bulk Pack>

Cap color :
 Y = Yellow
 B = Blue
 R = Red
 I = Ivory
 K = Black
 G = Green
 S = Salmon
 Ge = Gray

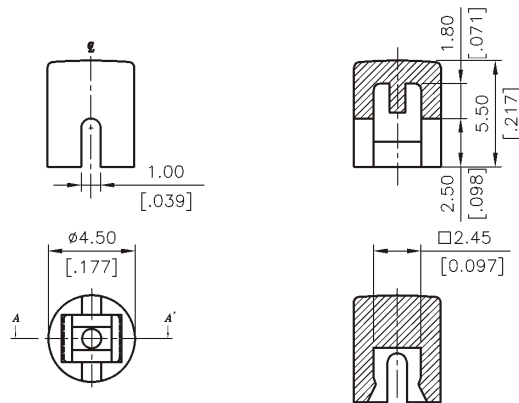
Cap Type :
 1 = Square
 2 = Round

* KTSC-6 can be applied on DTS□-644.
 PACKAGE: 1500 pcs/bag

KTSC-61



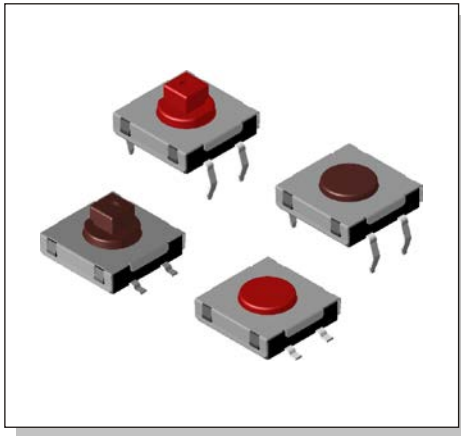
KTSC-62



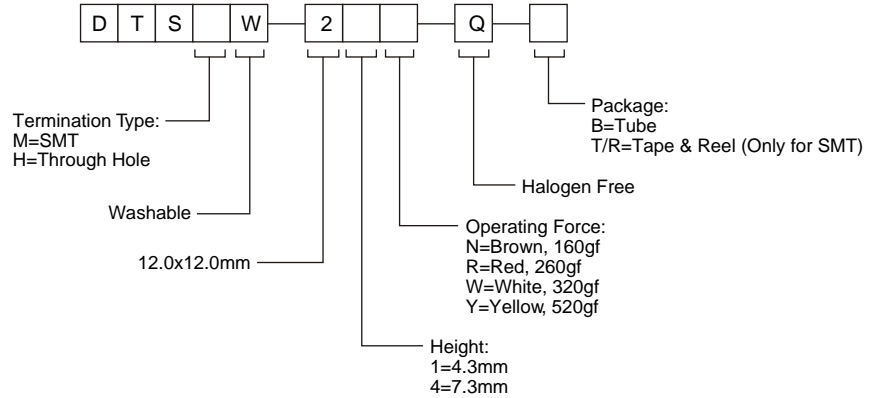
TACT SWITCH

DTS()W-2 SERIES

SMT & Through Hole Washable Type



HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force:
520±130gf Yellow (Y)
320±80gf Salmon (S)
260±50gf Red (R)
160±50gf Brown (N)
Stroke: 0.35±0.10mm

ENVIRONMENTAL

Operation Temperature Range : -40°C to +85°C
Storage Temperature Range : -40°C to +85°C

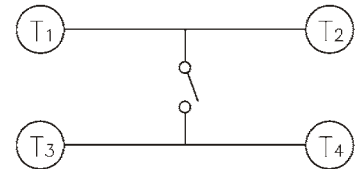
ELECTRICAL

Electrical Life: 1,000,000 cycles for 160g, 260g.
500,000 cycles for 320g, 520g.
Rating: 50mA, 50VDC

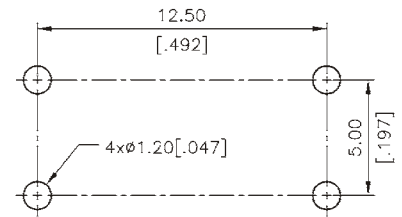
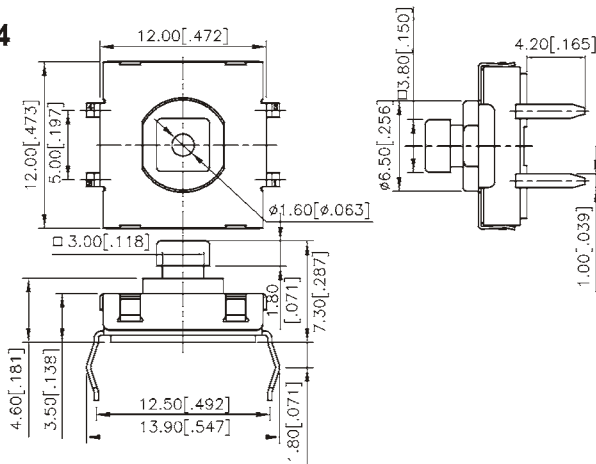
PACKAGE

Tube: 39 pcs/tube
Tape & Reel:
DTSMW-21: 700 pcs/reel
DTSMW-24: 500 pcs/reel

CIRCUIT

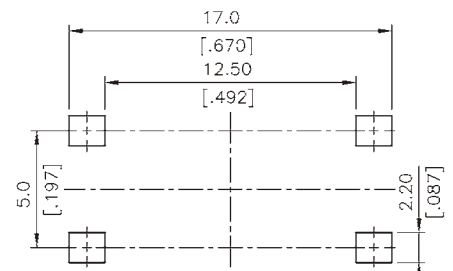
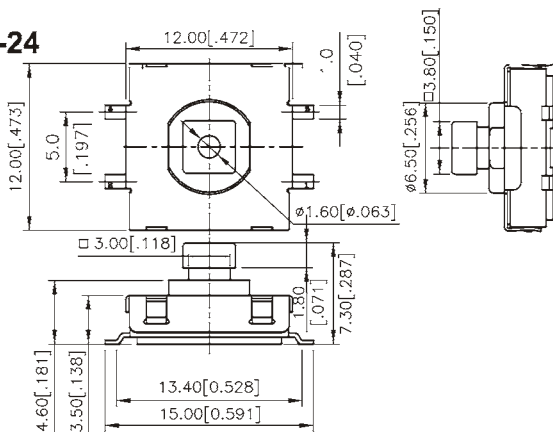


DTSHW-24



P.C.B. LAYOUT

DTSMW-24



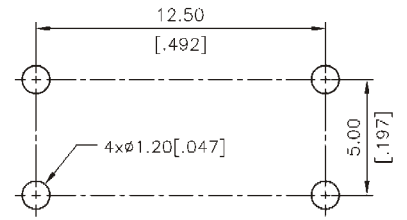
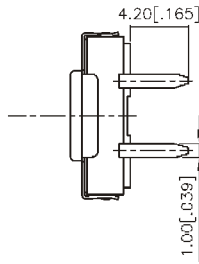
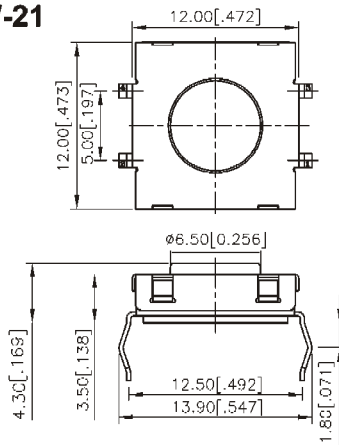
P.C.B. LAYOUT

DTS()W-2 SERIES

SMT & Through Hole Washable Type

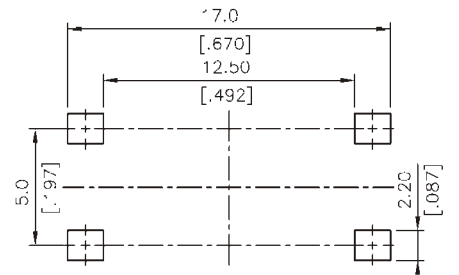
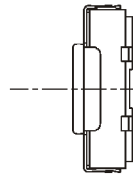
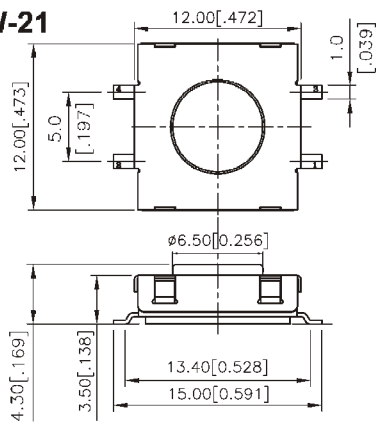


DTSHW-21



P.C.B LAYOUT

DTSMW-21

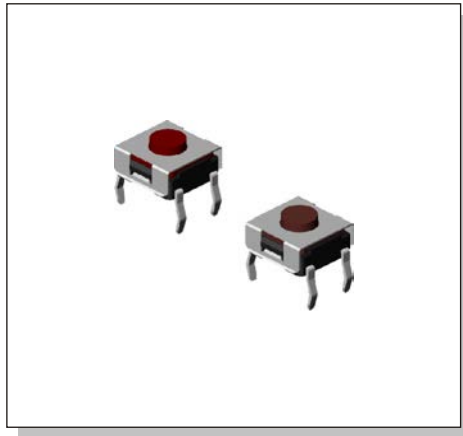


P.C.B LAYOUT

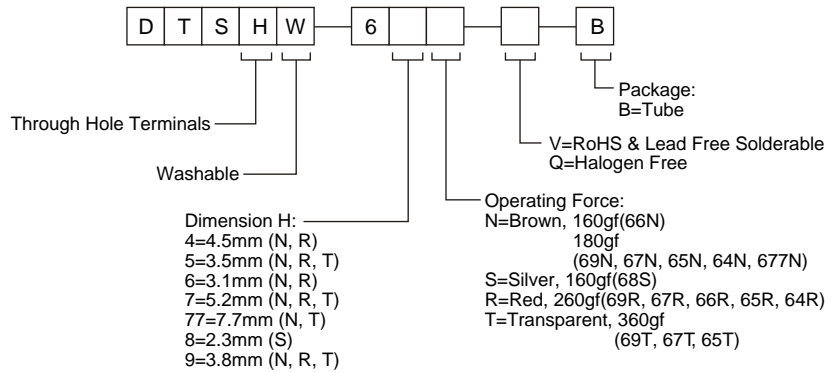
TACT SWITCH

DTSHW-6 SERIES

Through Hole Washable Type



HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force:
360±90gf, Transparent (T), 69, 67, 65
260±70gf Red (R), 69, 67, 66, 65, 64
180±50gf Brown (N), 69, 67, 65, 64
160±50gf Brown (N), 66
160±50gf Silver (S), 68
Stroke:
0.25±0.20 / - 0.1 mm 68S, 66N, 66R, 677
0.45±0.2mm, [69, 67 N/R], [65, 64N/R/T]
0.6±0.2mm, 69, 67T

ENVIRONMENTAL

Operation Temperature Range : -25°C to +70°C
Storage Temperature Range : -30°C to +80°C
Sealed IP57

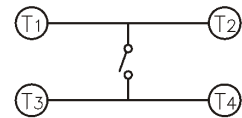
ELECTRICAL

Electrical Life:
500,000 cycles min. for 69, 67, 65, 64
100,000 cycles min. for 66, 68
Rating: 50mA, 12VDC

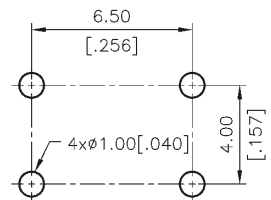
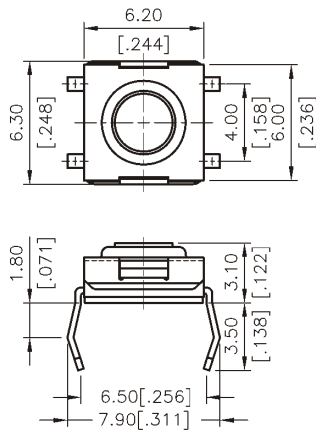
PACKAGE

Tube: 75 pcs/tube

CIRCUIT

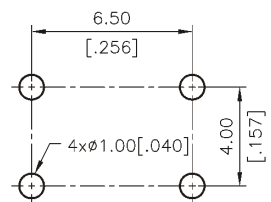
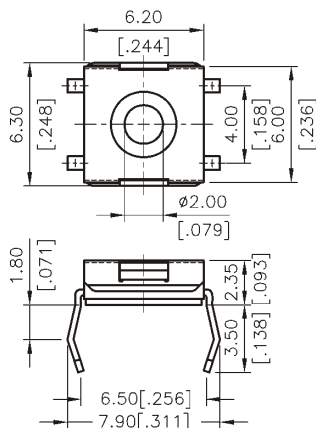


DTSHW-66



P.C.B. LAYOUT

DTSHW-68



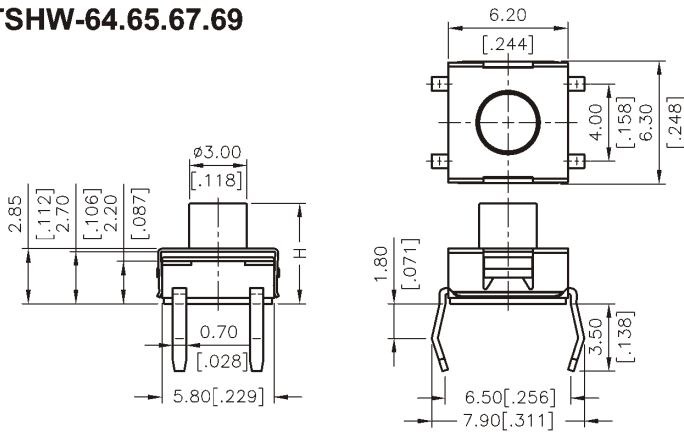
P.C.B. LAYOUT

DTSHW-6 SERIES

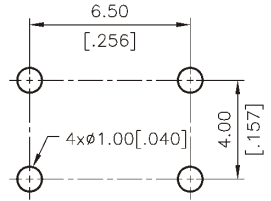
Through Hole Washable Type



DTSHW-64.65.67.69



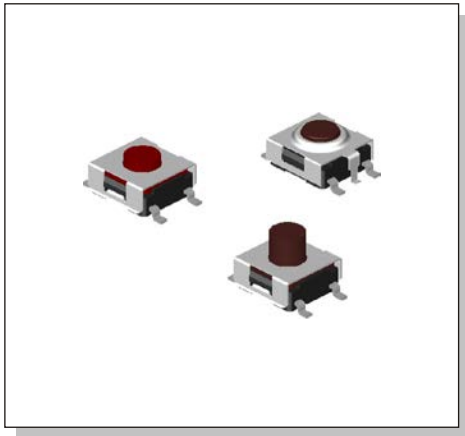
DTSHW-69	3.80[.150]
DTSHW-67	5.20[.205]
DTSHW-65	3.50[.138]
DTSHW-64	4.50[.177]
PART NO.	H



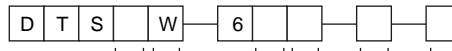
P.C.B. LAYOUT

DTS(G)MW-6 SERIES

6x6 Gull-Wing SMT Washable Type



HOW TO ORDER



M=Surface Mounting Terminals
GM=S.M.T & With Ground Terminal
(66, 65 Only)

Washable

Dimension H:
4=4.5mm (N, R)
5=3.5mm (N, R, T)
6=3.1mm (N, R)
7=5.2mm (N, R, T)
77=7.7mm (N, T)
8=2.3mm (S)
9=3.8mm (N, R, T)

Package:
B=Tube
T/R=Tape & Reel

V=RoHS & Lead Free Solderable
Q=Halogen Free

Operating Force:
N=Brown, 160gf(66N)
180gf
(69N, 67N, 65N, 64N, 677N)
S=Silver, 160gf(68S)
R=Red, 260gf(69R, 67R, 66R, 65R, 64R)
T=Transparent, 360gf
(69T, 67T, 65T, 677T)

SPECIFICATION

MECHANICAL

Operation Force:

360±90gf, Transparent (T), 69, 67, 65, 677
260±70gf, Red (R), 69,67,66,65,64

180±50gf, Brown (N), 69,67,65,64, 677

160±50gf, Brown (N), 66

160±50gf, Silver (S), 68

Stroke:

0.25 +0.20 / - 0.1 mm 68S, 66N, 66R, 677

0.45±0.2mm, [69, 67 N/R], [65, 64N/R/T]

0.6±0.2mm, 69, 67T

ENVIRONMENTAL

Operation Temperature Range : -25°C to +70°C

Storage Temperature Range : -30°C to +80°C

Sealed IP57

ELECTRICAL

Electrical Life:

500,000 cycles min. for 69, 67, 65, 64, 677

100,000 cycles min. for 66,68

Rating: 50mA, 12VDC

PACKAGE

Tube: 75 pcs/tube

DTSGMW-66: 2000 pcs/reel

DTSMW-68, 66: 2000 pcs/reel

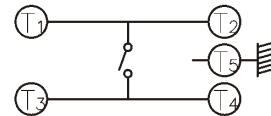
DTSMW-69, 65: 1900 pcs/reel

DTSMW-67, 64: 900 pcs/reel

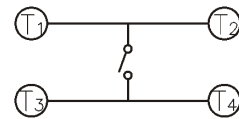
DTSMW-677: 650 pcs/reel

CIRCUIT

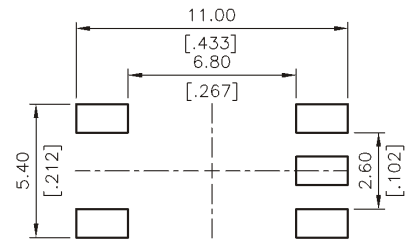
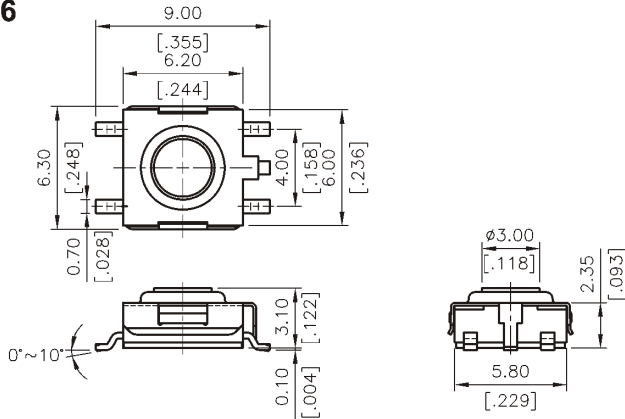
DTSGMW-66



DTSMW-6*

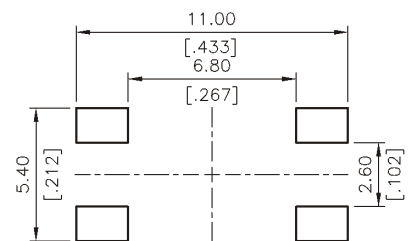
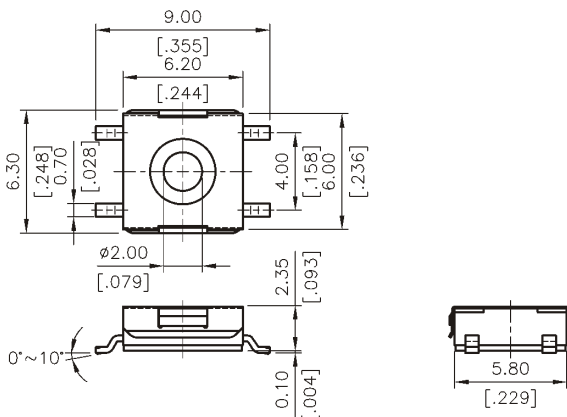


DTSGMW-66



P.C.B. LAYOUT

DTSMW-68



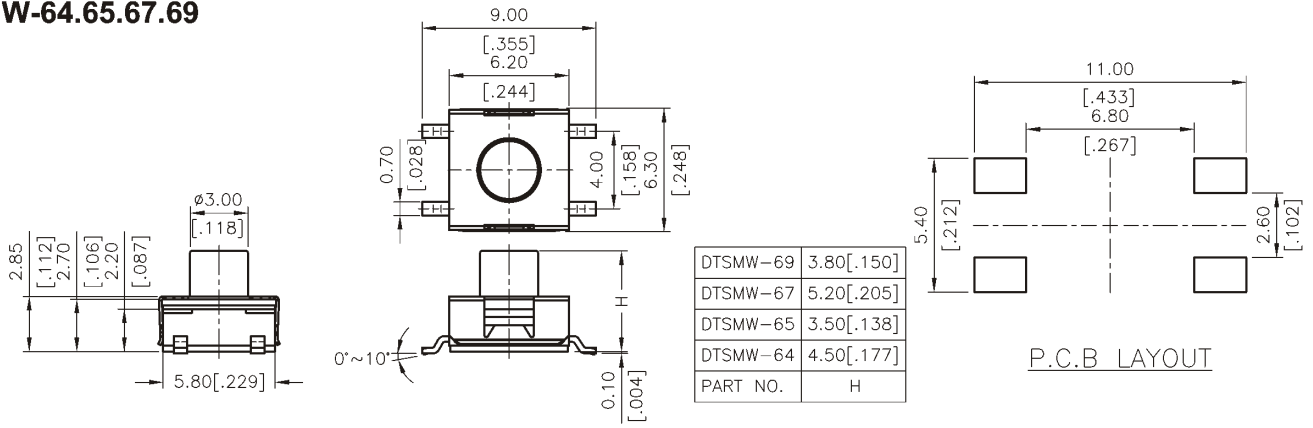
P.C.B. LAYOUT

DTS(G)MW-6 SERIES

6x6 Gull-Wing SMT Washable Type

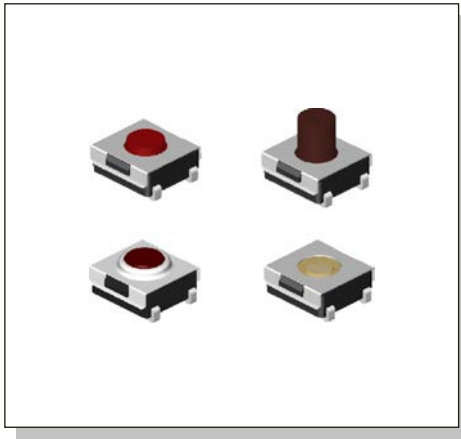


DTSMW-64.65.67.69

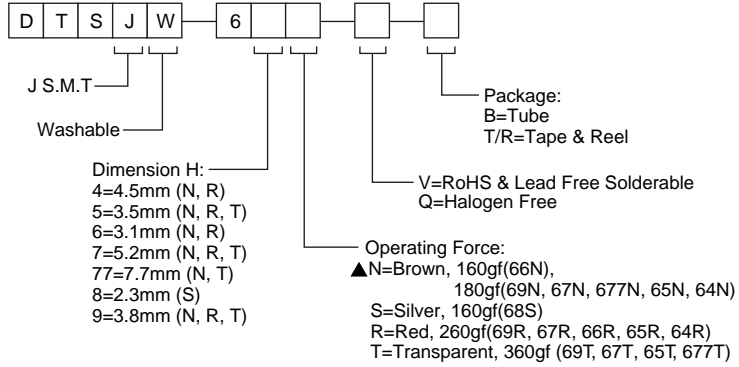


DTSJW-6 SERIES

6x6 J SMT Washable Type



HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force:
 360±90gf, Transparent (T) 69, 67, 65, 677
 260±70gf, Red (R) 69, 67, 66, 65, 64
 180±50gf, Brown (N) 69, 67, 65, 64, 677
 160±50gf, Brown (N) 66
 160±50gf, Silver (S) 68
Stroke :
 0.25+0.2/-0.1mm 66N, 66R, 677, 68S
 0.45±0.2mm, [67 · 69 N/R], [64 · 65N/R/T]
 0.6 ± 0.2 mm, 69, 67T

ENVIRONMENTAL

Operation Temperature Range : -25°C to +70°C
Storage Temperature Range : -30°C to +80°C
Sealed Ip57

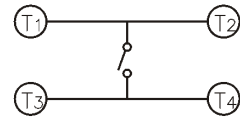
ELECTRICAL

Electrical Life :
 500,000 cycles for 69, 67, 65, 64
 100,000 cycles for 66, 68
Rating : 50mA, 12VDC

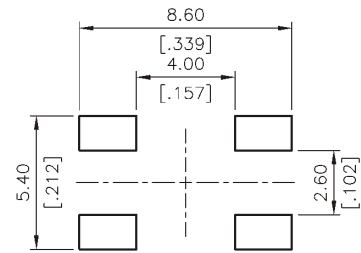
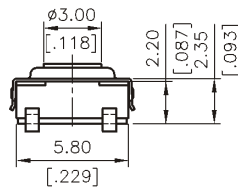
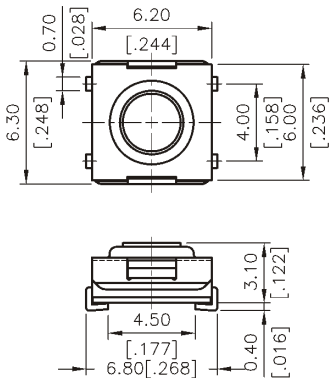
PACKAGE

Tube: 75 pcs/tube
 DTSJW-64, 67: 900 pcs/reel
 DTSJW-65, 69: 1800 pcs/reel
 DTSJW-66: 1900 pcs/reel
 DTSJW-68: 2700 pcs/reel
 DTSJW-677: 650 pcs/reel

CIRCUIT

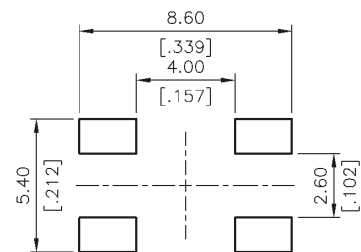
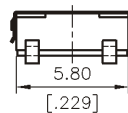
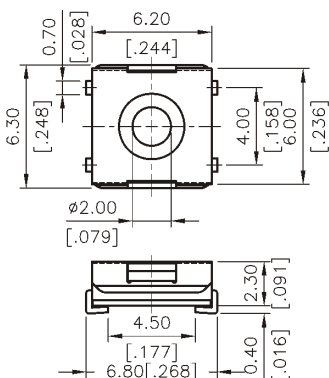


DTSJW-66



P.C.B. LAYOUT

DTSJW-68



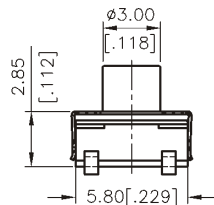
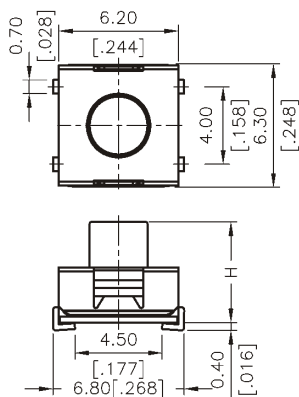
P.C.B. LAYOUT

DTSJW-6 SERIES

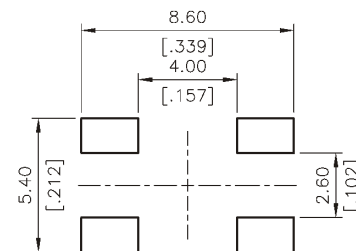
6x6 J SMT
Washable Type



DTSJW-64.65.67.69



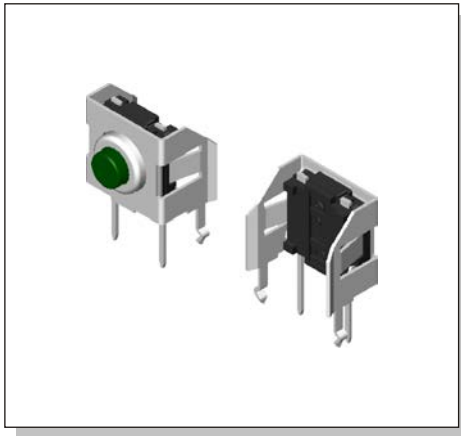
DTSJW-69	3.80[.150]
DTSJW-67	5.20[.205]
DTSJW-65	3.50[.138]
DTSJW-64	4.50[.177]
PART NO.	H



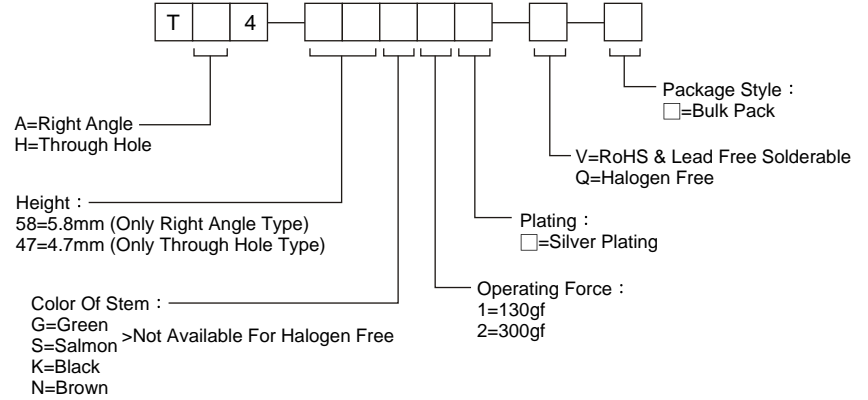
P.C.B LAYOUT

TA4 & TH4 SERIES

7x7 Side Push Sealed Type



HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force : 130±50gf, 300±90gf
 Stroke : 0.5±0.2mm

ENVIRONMENTAL

Operation Temperature Range : -40°C to +90°C
 Storage Temperature Range : -40°C to +90°C

ELECTRICAL

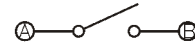
Electrical Life: 500,000 cycles for 300gf
 1,000,000 cycles for 130gf
 Switching Rating: 50 mA, 50 VDC

PACKAGE

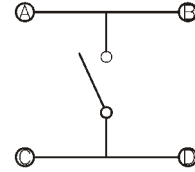
500 pcs/bag

CIRCUIT

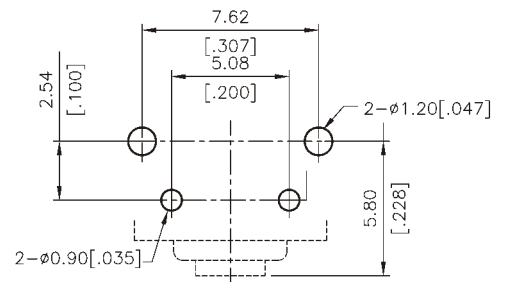
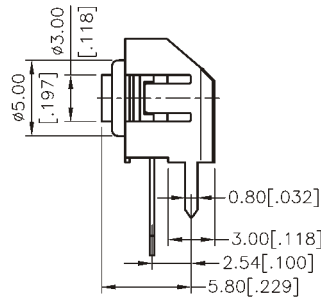
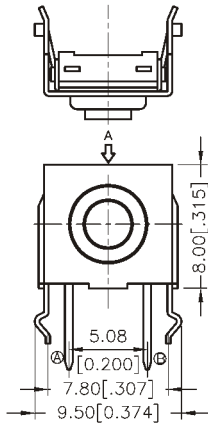
TA4



TH4

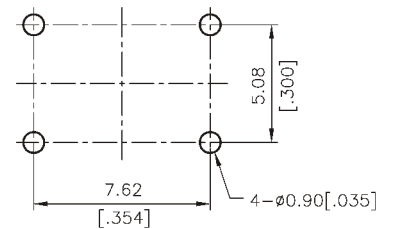
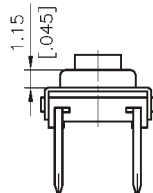
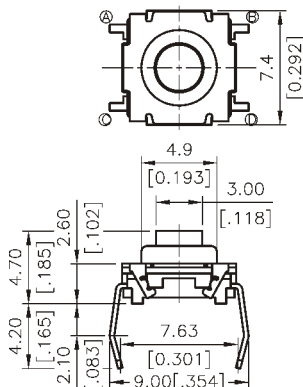


TA4



P.C.B. LAYOUT

TH4



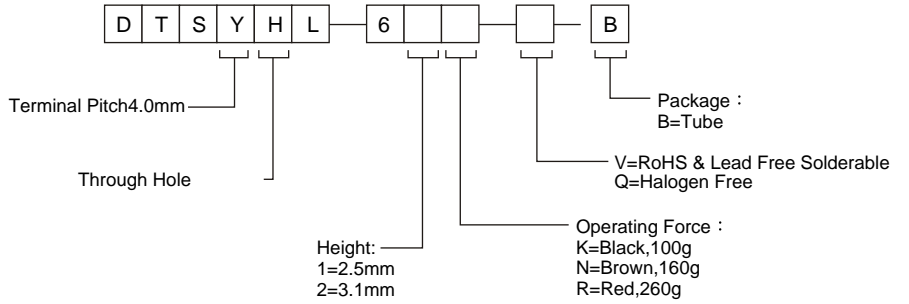
P.C.B. LAYOUT

DTSYH-6 SERIES

6X6 Through Hole Type (Pitch 4.0mm)



HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force: 260±50gf Red(R)
160±50gf Brown(N)
100±50gf Black(K)

Stroke: 0.25+0.2/-0.1mm

ENVIRONMENTAL

Operation Temperature Range : -25°C to +70°C
Storage Temperature Range : -30°C to +80°C

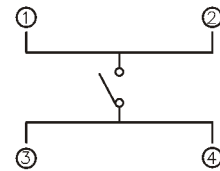
ELECTRICAL

Electrical Life: 100,000 cycles for 260gf
200,000 cycles for 100gf, 160gf
Rating : 50mA, 12VDC

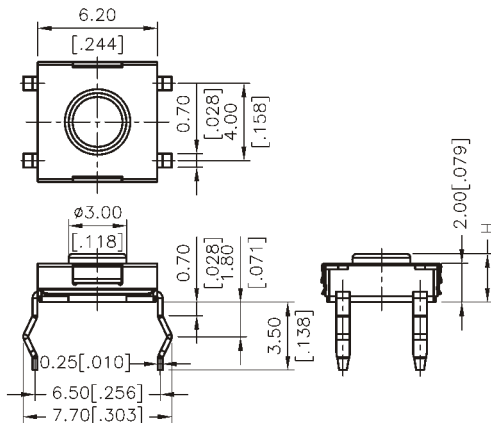
PACKAGE

Tube: 75 pcs/tube

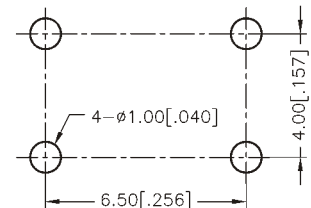
CIRCUIT



DTSYHL-6



DTSYHL-62	3.10 [.122]
DTSYHL-61	2.50 [.098]
PART NO.	H



P.C.B. LAYOUT

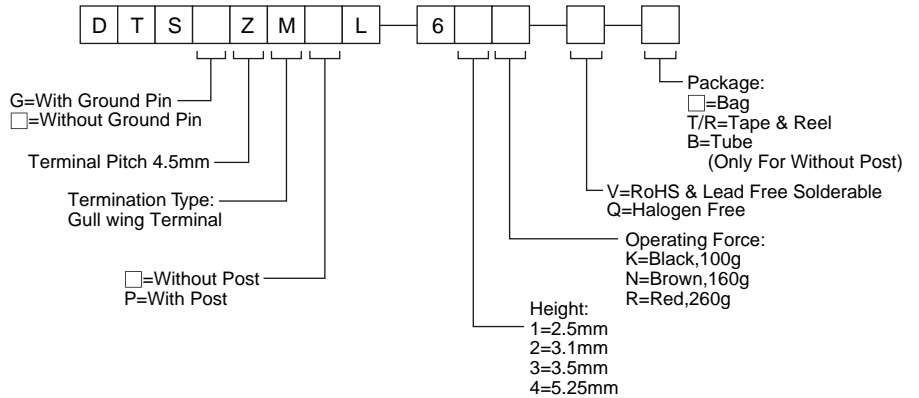
TACT SWITCH

DTS(G)ZM(P)L-6 SERIES

6x6 Thinner Type With Ground Terminal (Pitch 4.5mm)



HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force: 260±50gf Red(R)
160±50gf Brown(N)
100±50gf Black(K)

Stroke: 0.25+0.2/-0.1mm

ENVIRONMENTAL

Operation Temperature Range : -25°C to +70°C
Storage Temperature Range : -30°C to +80°C

ELECTRICAL

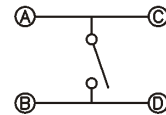
Electrical Life: 100,000 cycles for 260gf
200,000 cycles for 100gf, 160gf
Rating : 50mA, 12VDC

PACKAGE

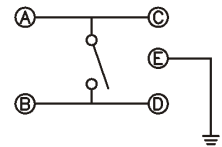
Tube: 75 pcs/tube
DTS(G)ZM-61□-T/R: 2500 pcs/reel
DTS(G)ZM-62□-T/R: 2500 pcs/reel
DTS(G)ZMP-62: 1400 pcs/reel
DTS(G)ZM(P)-63: 1200 pcs/reel
DTS(G)ZM(P)-64: 1000 pcs/reel

CIRCUIT

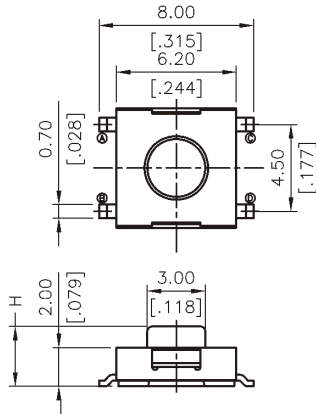
DTSZML-6



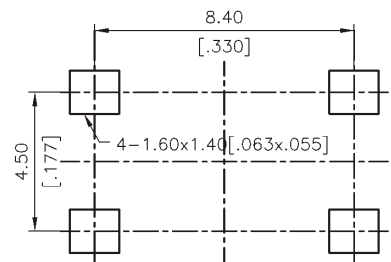
DTSGZMPL-6



DTSZML-6

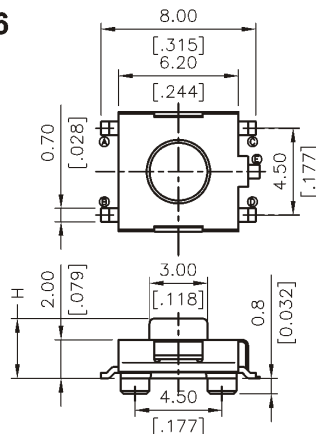


DTS□ZML-64	5.25[.207]
DTS□ZML-63	3.50[.138]
DTS□ZML-62	3.10[.122]
DTS□ZML-61	2.50[.098]
PART NO.	H

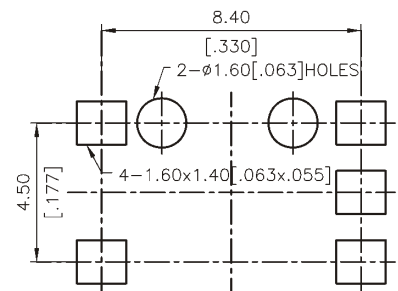


P.C.B LAYOUT

DTSGZMPL-6



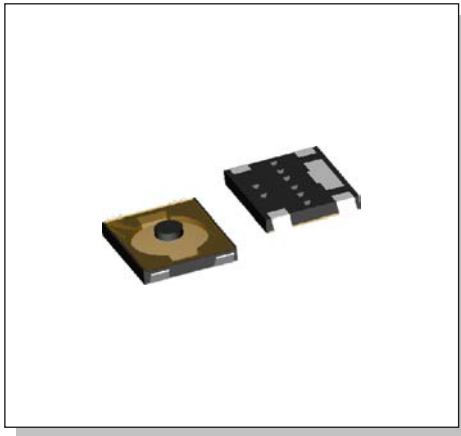
DTS□ZMPL-64	5.25[.207]
DTS□ZMPL-63	3.50[.138]
DTS□ZMPL-62	3.10[.122]
DTS□ZMPL-61	2.50[.098]
PART NO.	H



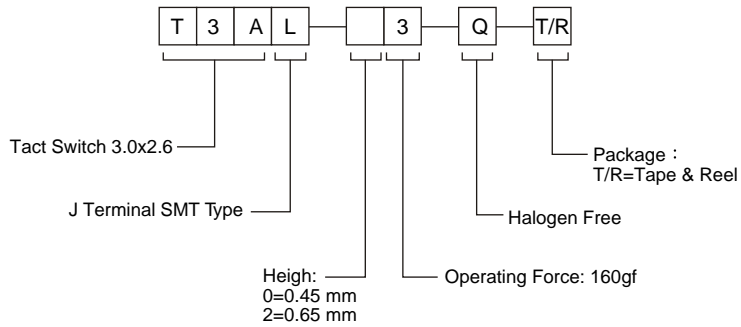
P.C.B LAYOUT

T3A SERIES

3x2.6 J Terminal SMT Type (H: 0.45/0.65mm)



HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force : 160±50gf
Stroke : 0.15±0.10mm

ENVIRONMENTAL

Operation Temperature Range : -40°C to +85°C
Storage Temperature Range : -40°C to +85°C

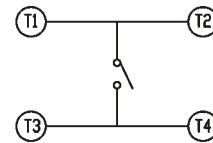
ELECTRICAL

Electrical Life: 100,000 cycles
Rating : 50mA, 12VDC

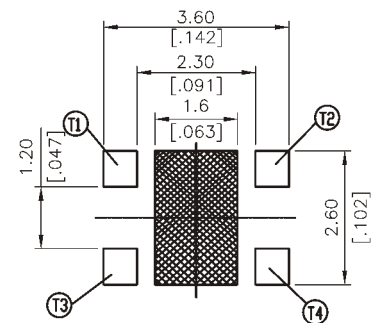
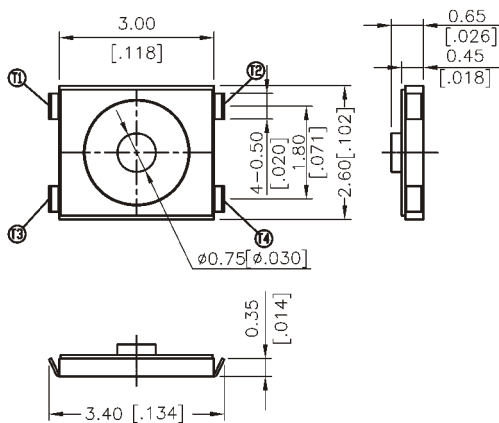
PACKAGE

Tape and Reel: 8000 pcs/reel

CIRCUIT



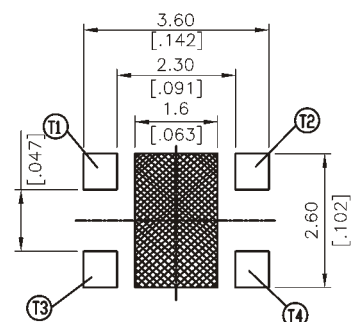
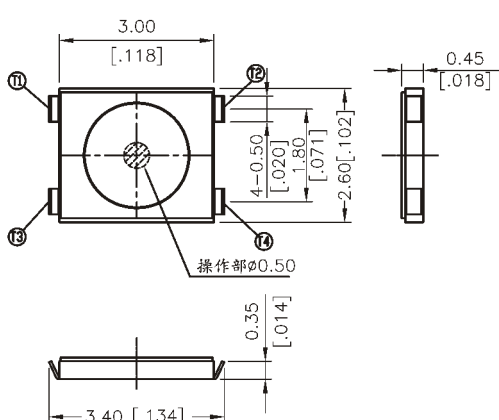
T3AL-23



Any land pattern or vias shall not be provided at 1.6X2.6 area.

P.C.B. LAYOUT

T3AL-03



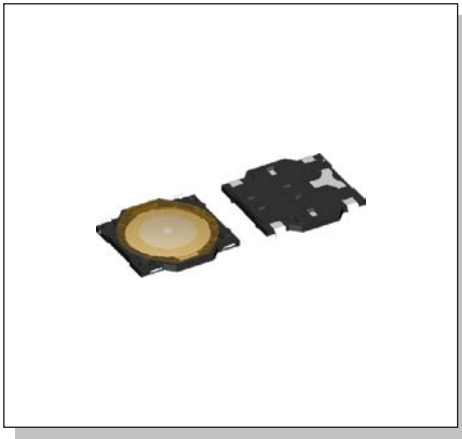
Any land pattern or vias shall not be provided at 1.6X2.6 area.

P.C.B. LAYOUT

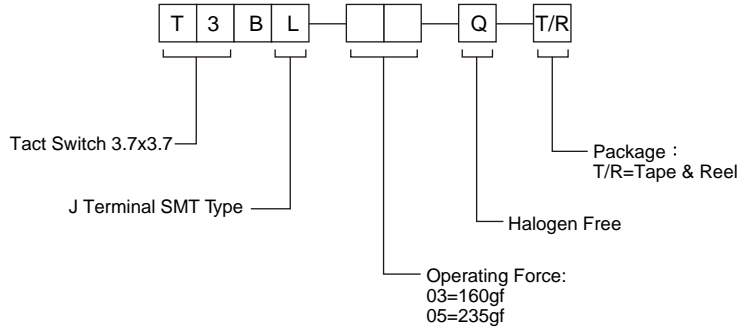
TACT SWITCH

T3B SERIES

3.7x3.7 J Terminal SMT Type (H: 0.35mm)



HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force : 160±50gf
235±60gf

Stroke : 0.15±0.10mm

ENVIRONMENTAL

Operation Temperature Range : -20°C to +70°C

Storage Temperature Range : -30°C to +80°C

ELECTRICAL

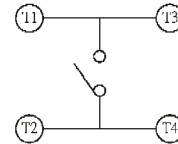
Electrical Life : 500,000 cycles for 160gf
50,000 cycles for 235gf

Rating : 50mA,12V DC

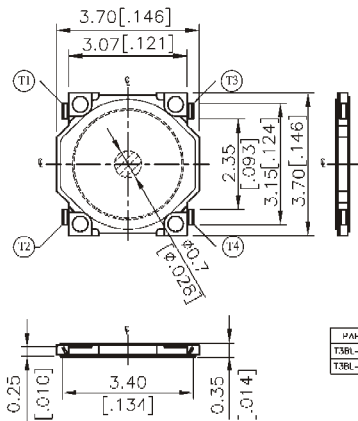
PACKAGE

Tape and Reel: 8000 pcs/reel

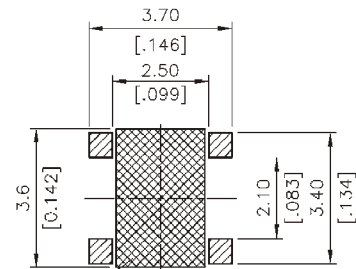
CIRCUIT



T3BL



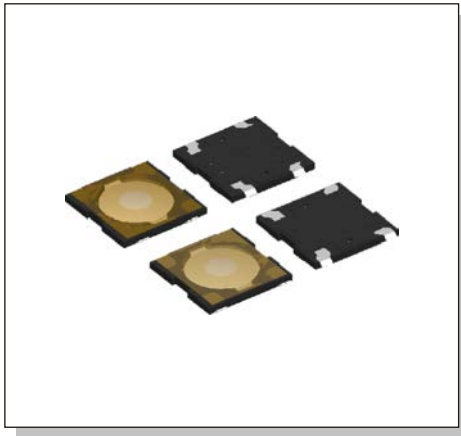
PART NO.	OP.
T3BL-03-Q	160gf
T3BL-05-Q	235gf



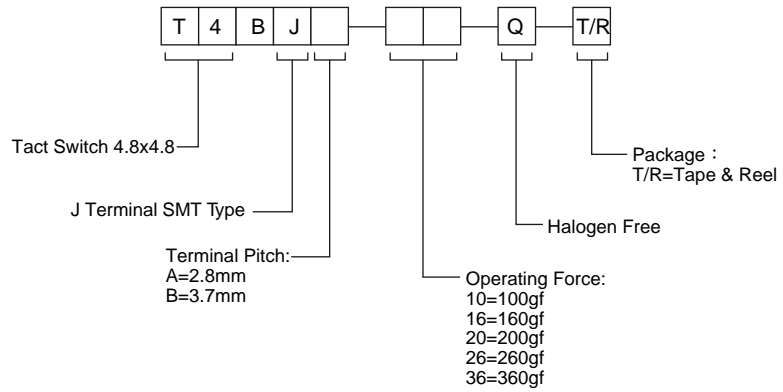
Any land pattern or vias shall not be provided at 2.30x3.60 area.

P.C.B. LAYOUT

TACT SWITCH



HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force: 100±50gf
160±50gf
200±50gf
260±50gf
360±60gf

Stroke: 0.20±0.10mm

ENVIRONMENTAL

Operation Temperature Range: -40°C to +80°C
Storage Temperature Range: -40°C to +80°C

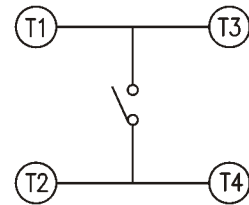
ELECTRICAL

Electrical Life: 1,000,000 cycles for 100gf, 160gf
500,000 cycles for 200gf, 260gf
200,000 cycles for 360gf
Rating: 50mA, 12V DC

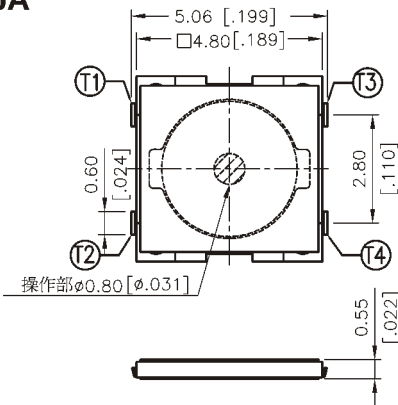
PACKAGE

Tape and Reel: 8000 pcs/reel

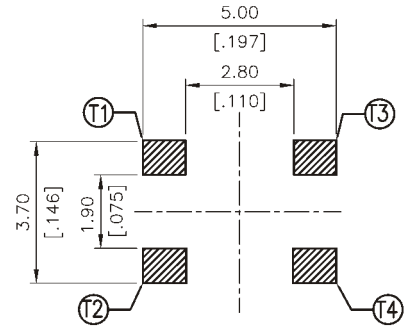
CIRCUIT



T4BJA

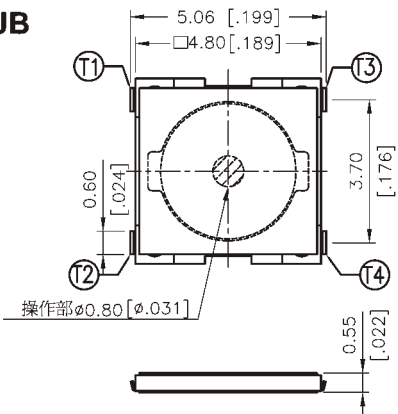


PART NO	OF
T4BJA10-Q	100gf
T4BJA16-Q	160gf
T4BJA20-Q	200gf
T4BJA26-Q	280gf
T4BJA36-Q	360gf

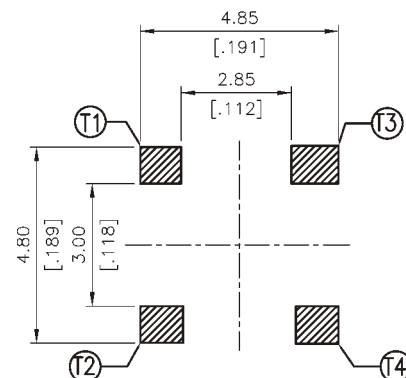


P.C.B LAYOUT

T4BJB



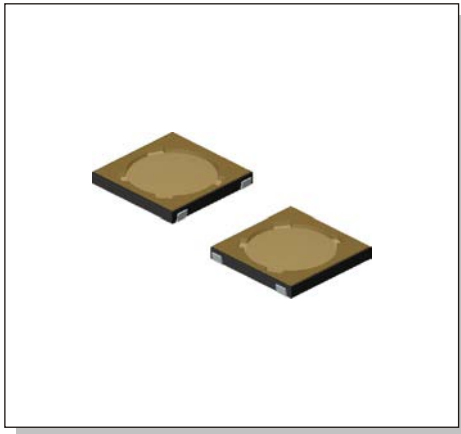
PART NO	OF
T4BJB10-Q	100gf
T4BJB16-Q	160gf
T4BJB20-Q	200gf
T4BJB26-Q	280gf
T4BJB36-Q	360gf



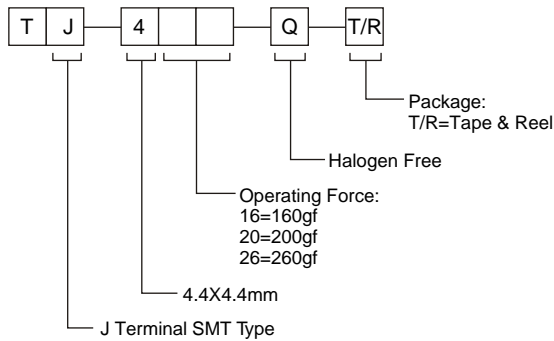
P.C.B LAYOUT

TJ-4 SERIES

4x4 J Terminal SMT Type (H:0.55mm)



HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force :
160±50gf, 200 ± 50gf, 260 ± 50gf
Stroke : 0.2±0.1mm

ENVIRONMENTAL

Operation Temperature Range : -20°C to +70°C
Storage Temperature Range : -30°C to +80°C

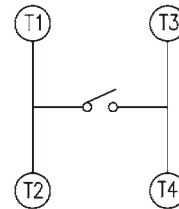
ELECTRICAL

Electrical Life : 1,000,000 cycles for 160gf
500,000 cycles for 200gf, 260gf
Switching Rating : 50mA, 12VDC

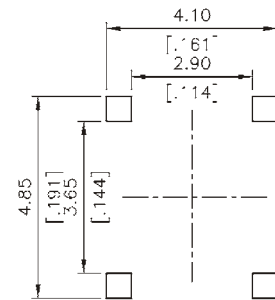
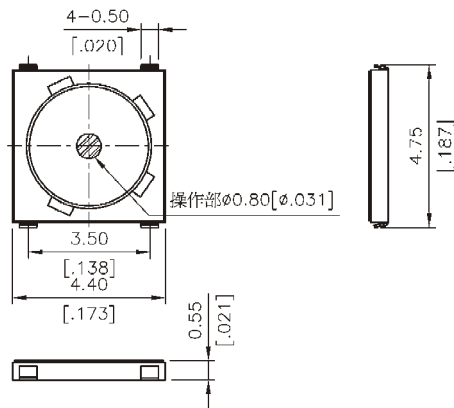
PACKAGE

Tape & Reel: 8000 pcs/reel

CIRCUIT



TJ-4

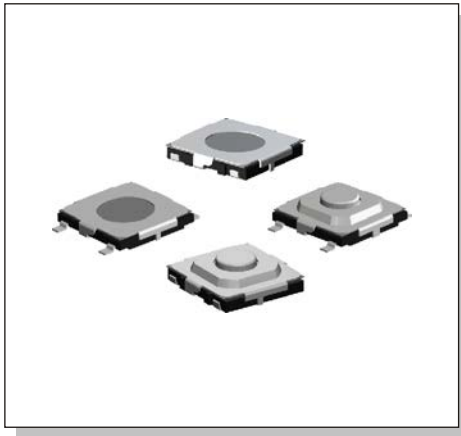


P.C.B. LAYOUT

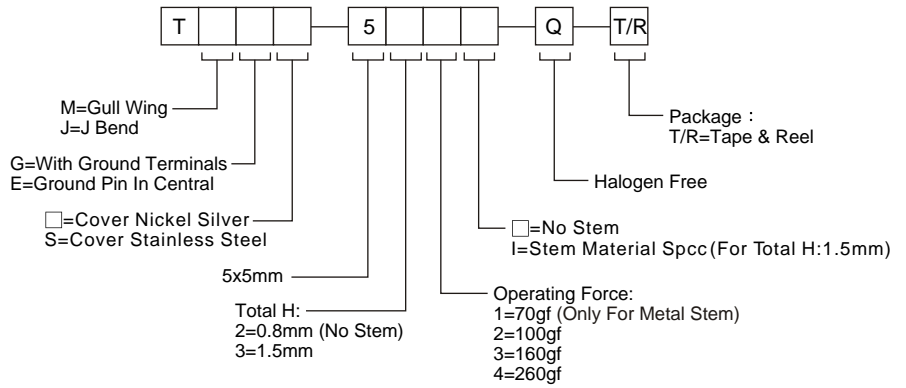
TACT SWITCH

TMG -5, TJG-5 SERIES

5x5 SMT & J SMT Type
(H: 0.8 & 1.5mm)



HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force: 260±50gf
160±50gf
100±50gf
70±30gf

Stroke: 0.25±0.1 mm/- 0.2 mm

ENVIRONMENTAL

Operation Temperature Range : -25°C to +70°C
Storage Temperature Range : -30°C to +80°C

ELECTRICAL

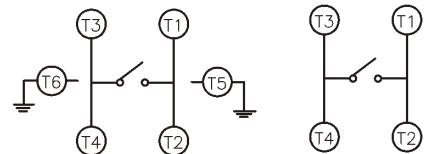
Electrical Life:
1,000,000 cycles min. for 70gf, 100gf, 160gf
200,000 cycles min. for 260gf
Rating : 50mA, 12VDC

PACKAGE

Tape and Reel: 4000 pcs/reel

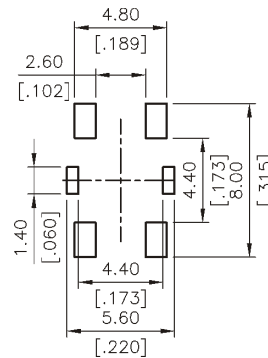
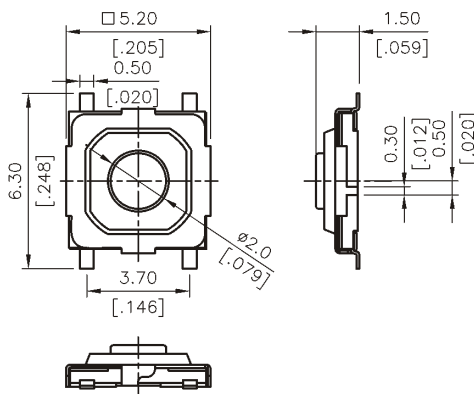
CIRCUIT

WITHOUT GROUND
CIRCUIT DIAGRAM

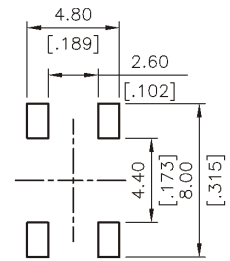


WITH GROUND
CIRCUIT DIAGRAM

TMG-53

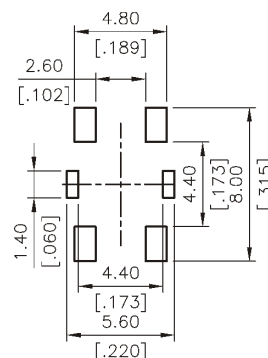
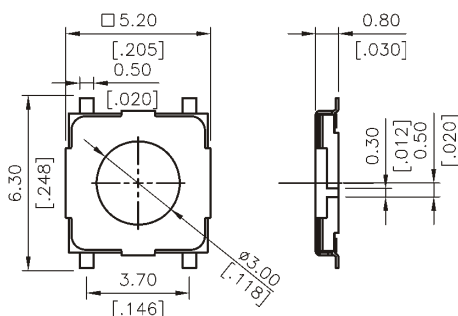


WITH GROUND
P.C.B LAYOUT

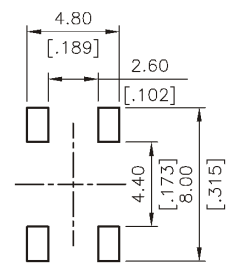


WITHOUT GROUND
P.C.B LAYOUT

TMG-52



WITH GROUND
P.C.B LAYOUT



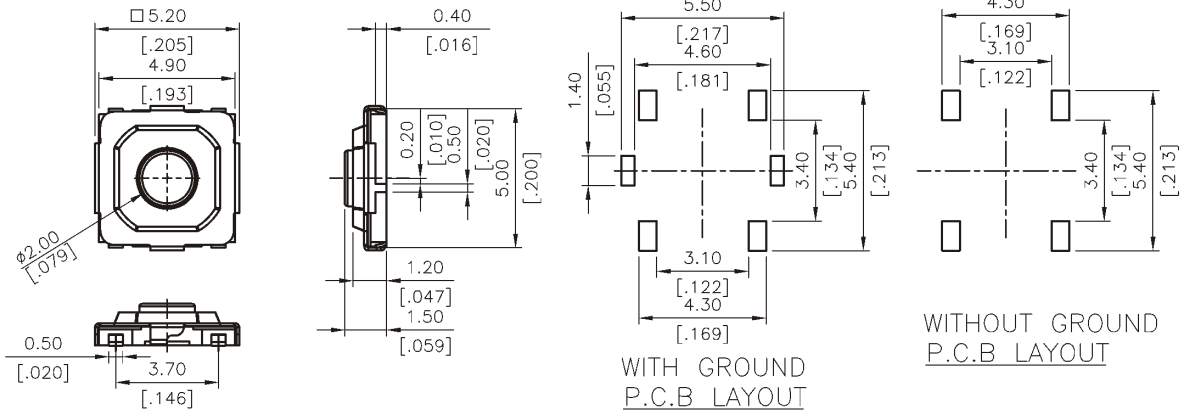
WITHOUT GROUND
P.C.B LAYOUT

TMG -5, TJG-5 SERIES

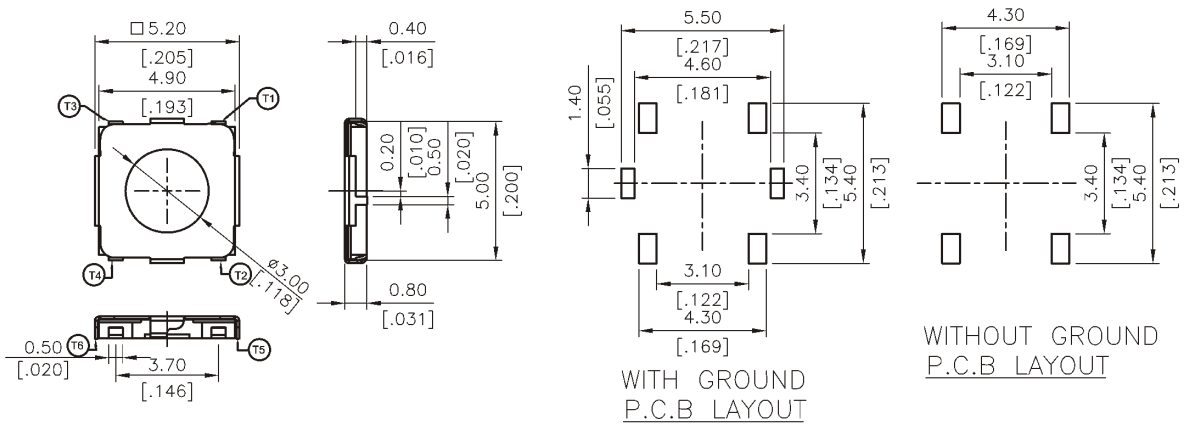
5x5 SMT & J SMT Type (H: 0.8 & 1.5mm)



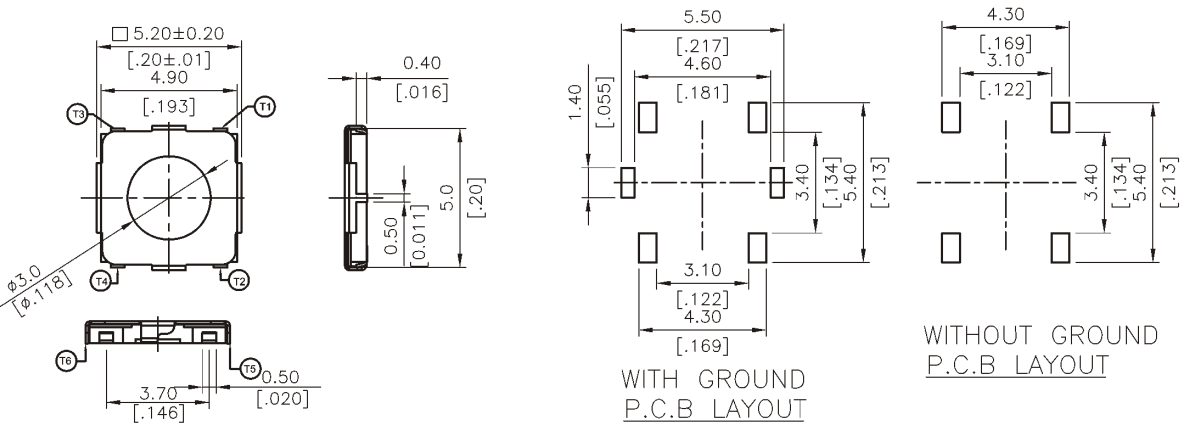
TJG-53



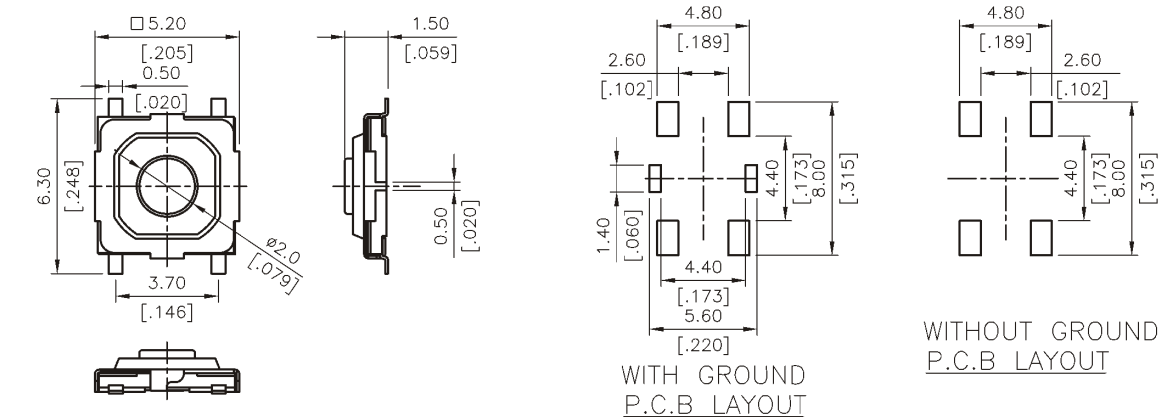
TJG-52



TJE-52



TME-53



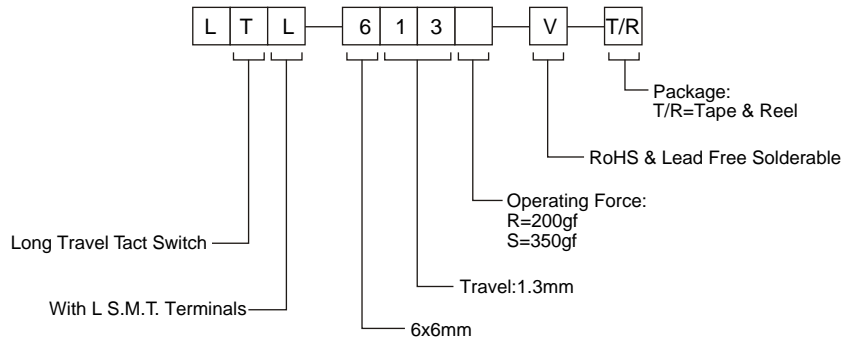
TACT SWITCH

LTL SERIES

Long Travel SMT Type Tactile Switch



HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force: 200 ± 50 gf
 350 ± 100 gf

Stroke: 1.30 ± 0.1 / - 0.3 mm

ENVIRONMENTAL

Operation Temperature Range : -40°C to $+85^{\circ}\text{C}$

Storage Temperature Range : -40°C to $+85^{\circ}\text{C}$

ELECTRICAL

Electrical Life: 100,000 cycles (200gf)

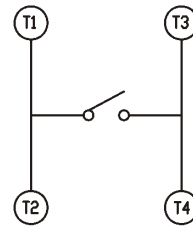
30,000 cycles (350gf)

Rating : 50mA, 12VDC

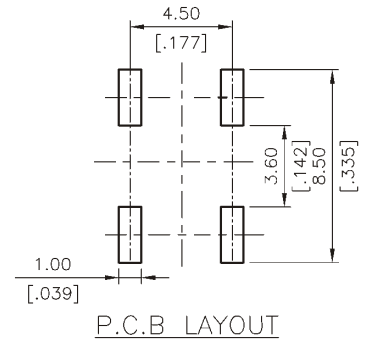
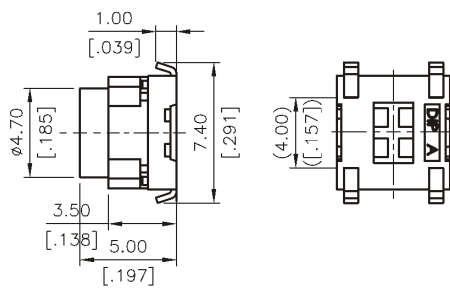
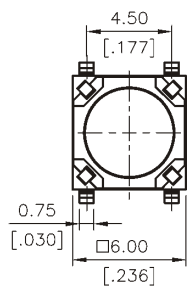
PACKAGE

Tape and Reel: 900 pcs/reel

CIRCUIT



LTL



TCE SERIES

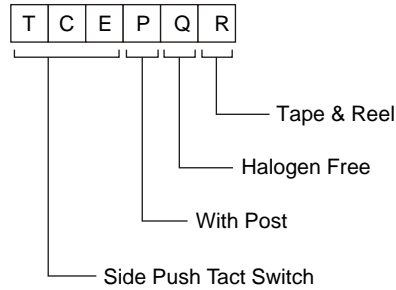
3.95x1.5 Side Push Sealed Type



NEW



HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force : 160±50gf
Stroke : 0.20±0.1mm

ENVIRONMENTAL

Operation Temperature Range : -40°C to +85°C
Storage Temperature Range : -40°C to +90°C

ELECTRICAL

Electrical Life: 100,000 cycles
Switching Rating: 20mA, 12VDC

PACKAGE

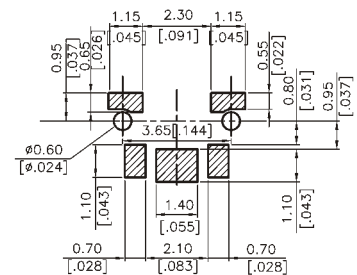
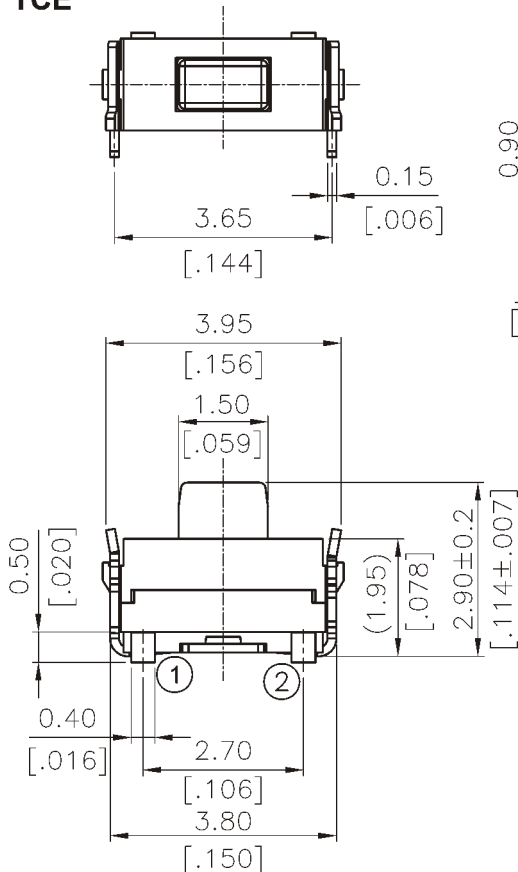
3000 pcs/reel

CIRCUIT

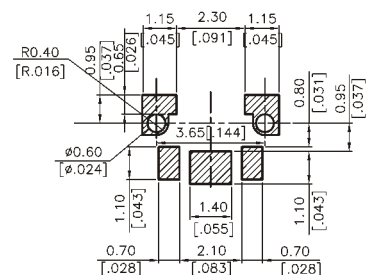
TCE



TCE



P.C.B. LAYOUT PADS 1

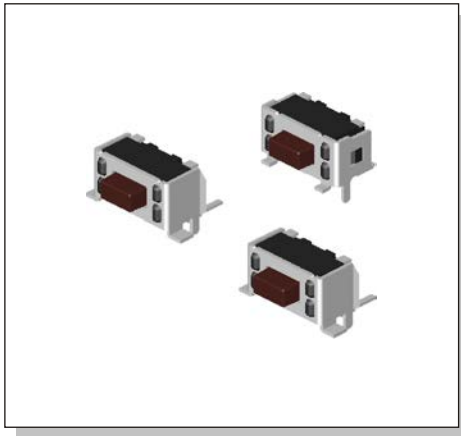


P.C.B. LAYOUT PADS 2

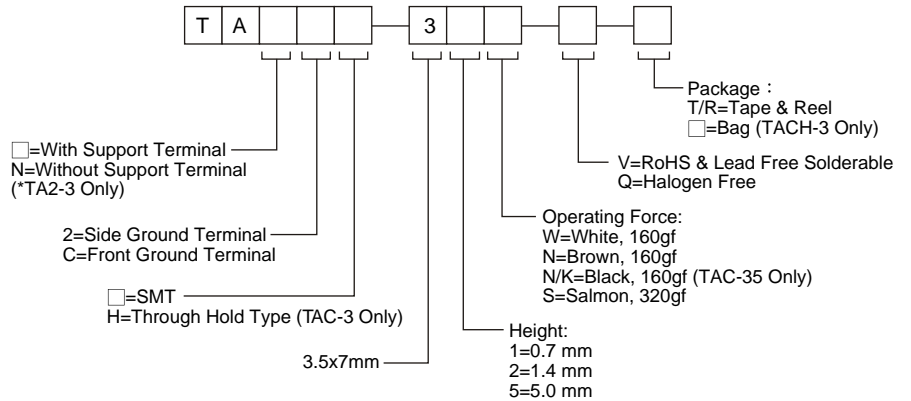
TACT SWITCH

TAC-3, TA(N)2-3 SERIES

4x7 SMT & Side Push Type



HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force: 320 ± 50gf Salmon (S)
 160 ± 50gf White (W)
 Stroke : 0.25+0.1/-0.2mm

ENVIRONMENTAL

Operation Temperature Range : -25°C to +70°C
 Storage Temperature Range : -30°C to +80°C

ELECTRICAL

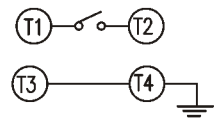
Electrical Life : 50,000 cycles
 Rating : 50mA, 12VDC

PACKAGE

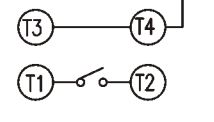
Tape and Reel: 900 pcs/reel
 TACH-3: 500 pcs/bag

CIRCUIT

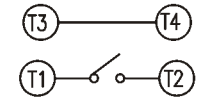
TAC-3



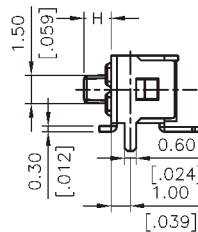
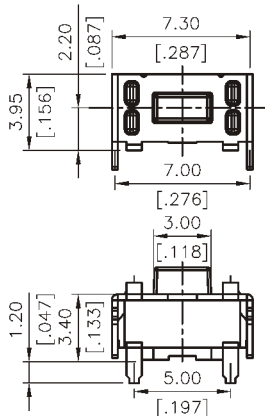
TA(N)2-3



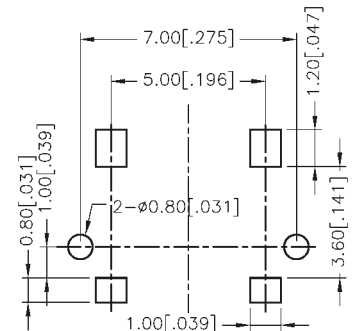
TACH-3



TAC-3

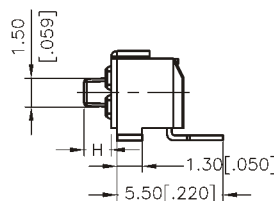
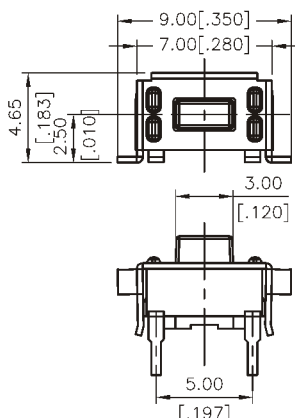


TAC-35	5.00[.196]
TAC-32	1.40[.055]
TAC-31	0.70[.027]
PART NO.	H

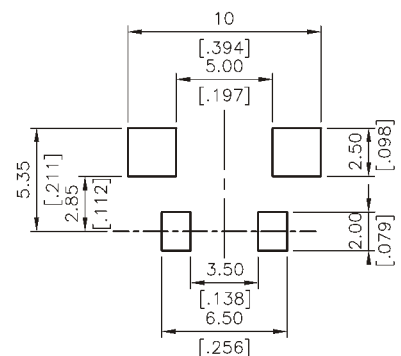


P.C.B LAYOUT

TAN2-3



TAN2-35	5.00[.196]
TAN2-32	1.40[.055]
TAN2-31	0.70[.027]
PART NO.	H

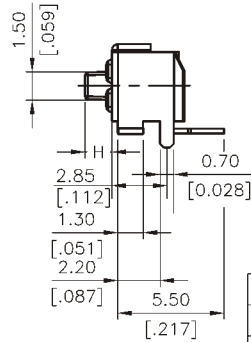
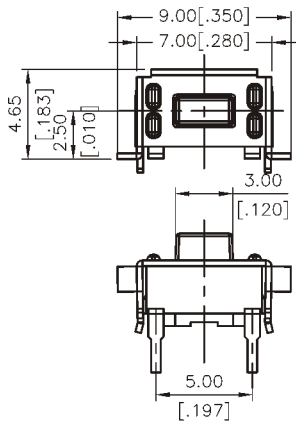


P.C.B LAYOUT

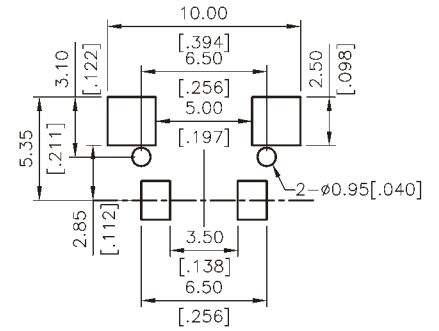
TAC-3, TA(N)2-3 SERIES

4x7 SMT & Side Push Type

TA2-3

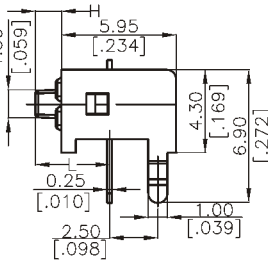
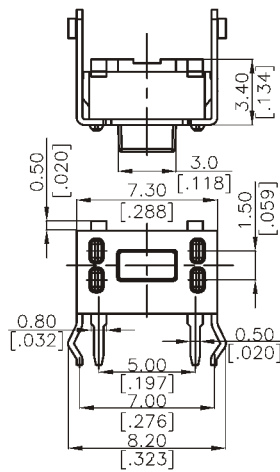


TA2-35	5.00 [.196]
TA2-32	1.40 [.055]
TA2-31	0.70 [.027]
PART NO.	H

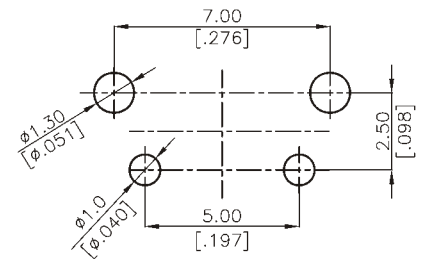


P.C.B. LAYOUT

TACH-3



TACH-32	1.40 [.055]	3.85 [.152]
TACH-31	0.70 [.027]	3.15 [.124]
PART NO.	H	L



P.C.B. LAYOUT

TCF SERIES

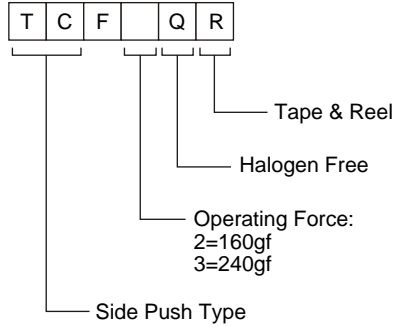
4.5x2.9 Side Push Type Mid-mount Switch



NEW



HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force : 160±50gf, 240±70gf
Stroke : 0.15±0.1mm

ENVIRONMENTAL

Operation Temperature Range : -40°C to +85°C
Storage Temperature Range : -40°C to +85°C

ELECTRICAL

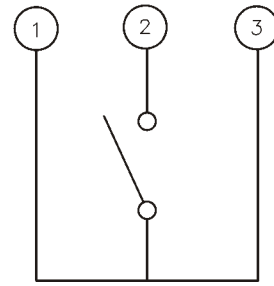
Electrical Life: 100,000 cycles
Switching Rating: 10mA, 2VDC to 20mA, 15VDC

PACKAGE

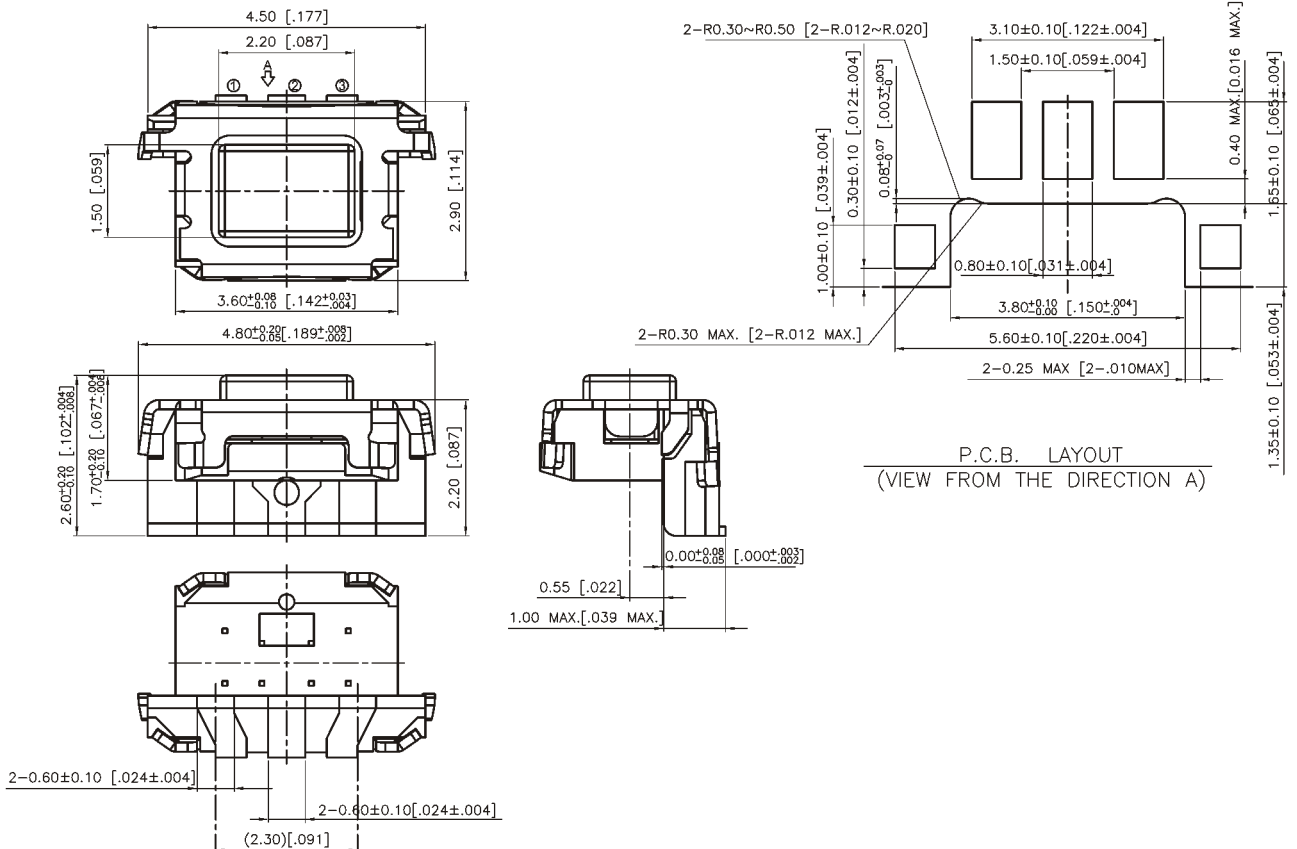
2400 pcs/reel

CIRCUIT

TCF



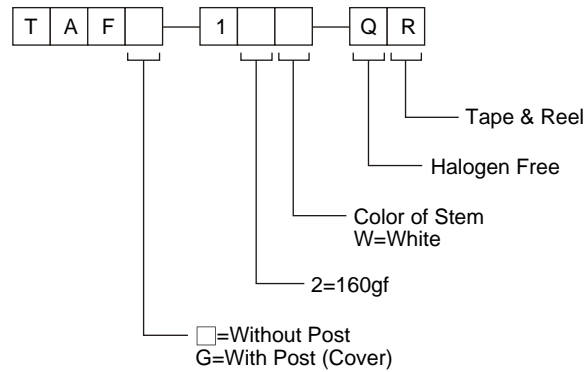
TCF



NEW



HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force : 160±50gf
Stroke : 0.20+0.20/-0.10 mm

ENVIRONMENTAL

Operation Temperature Range : -40°C to +85°C
Storage Temperature Range : -40°C to +85°C

ELECTRICAL

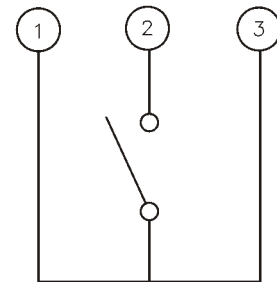
Electrical Life: 100,000 cycles
Switching Rating: 50mA, 12VDC

PACKAGE

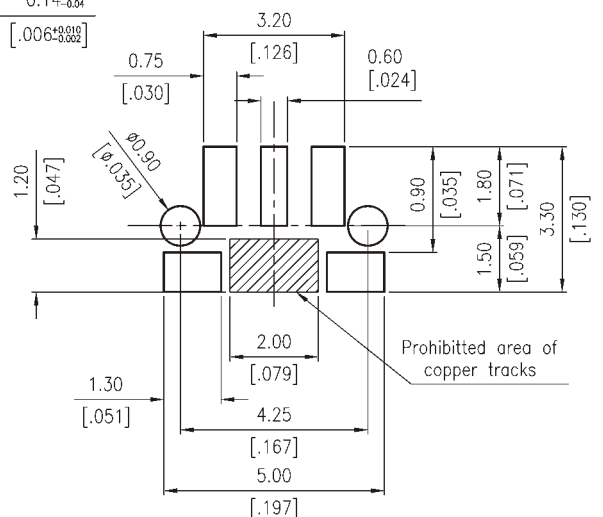
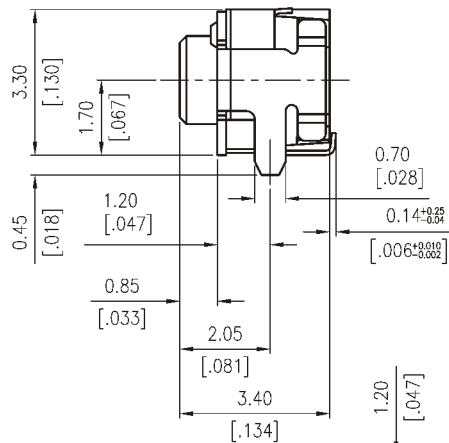
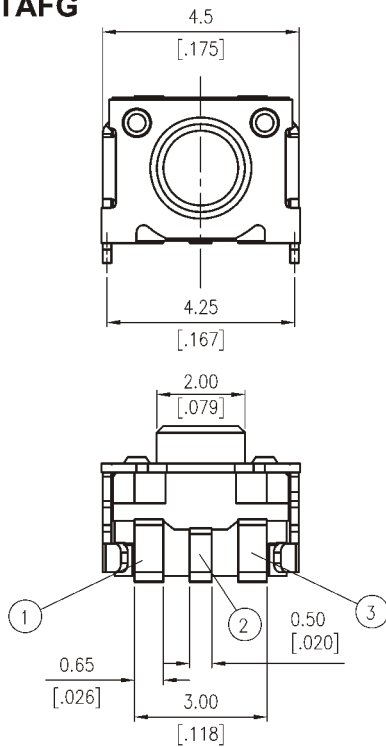
To be confirmed.

CIRCUIT

TAFG



TAFG

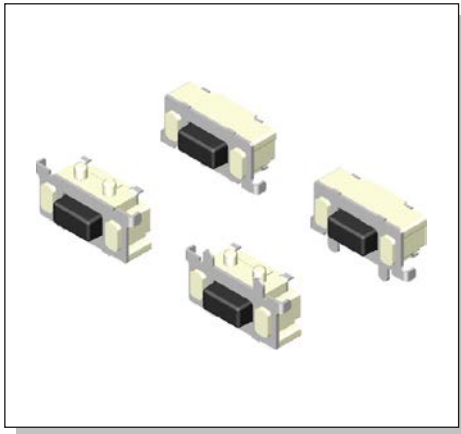


P.C.B LAYOUT

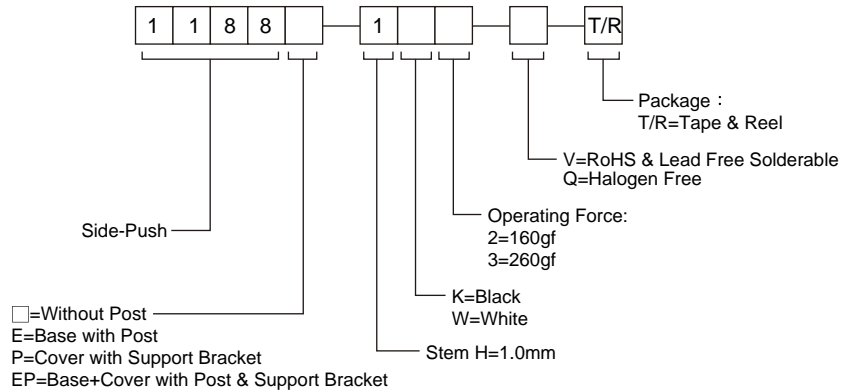
TACT SWITCH

1188 SERIES

3.5x7 SMT & Side Push Type



HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force: 260 ± 50 gf
 160 ± 50 gf
 Stroke: 0.25 ± 0.1 mm

ENVIRONMENTAL

Operation Temperature Range : -25°C to $+70^{\circ}\text{C}$
 Storage Temperature Range : -40°C to $+80^{\circ}\text{C}$

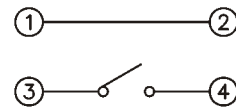
ELECTRICAL

Electrical Life : 50,000 cycles for 160gf.
 30,000 cycles for 260gf.
 Rating : 50mA, 12VDC

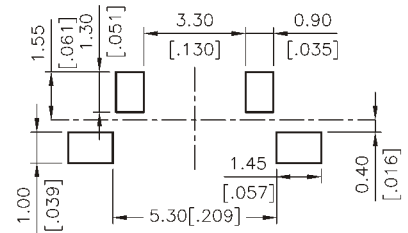
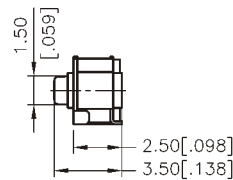
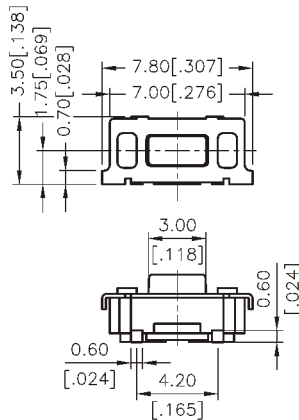
PACKAGE

Tape and Reel: 2000 pcs/reel

CIRCUIT

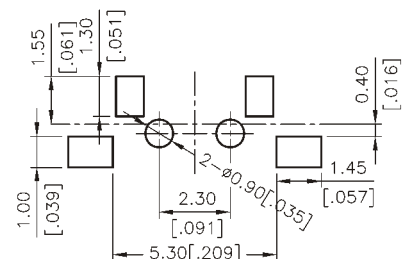
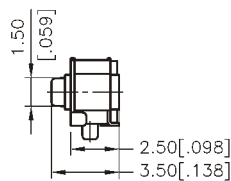
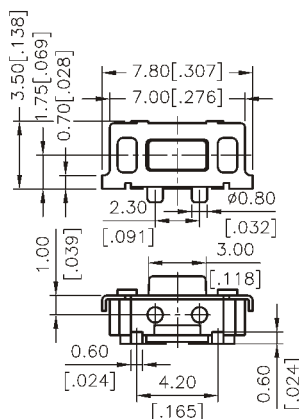


1188



P.C.B. LAYOUT

1188E



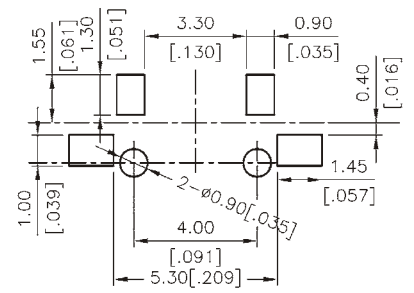
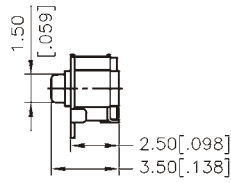
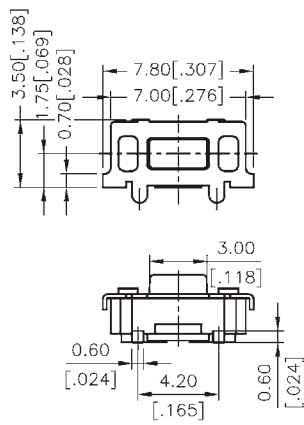
P.C.B. LAYOUT

1188 SERIES

3.5x7 SMT & Right Angle



1188P

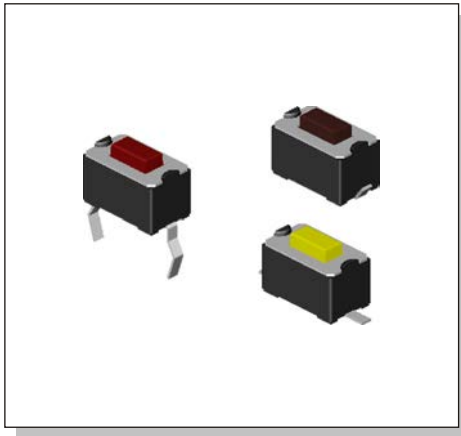


P.C.B. LAYOUT

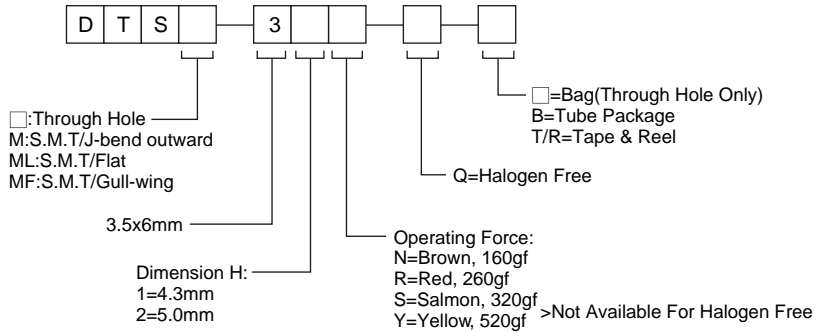
TACT SWITCH

DTS-3,DTSM(L)-3 SERIES

3.5x6 Through Hole & SMT Type Tactile Switch



HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force: 520±130gf Yellow(Y)
 320±80gf Salmon(S)
 260±50gf Red(R)
 160±50gf Brown(N)

Stroke: 0.25+0.2/-0.1mm

ENVIRONMENTAL

Operation Temperature Range: -25°C to +70°C
 Storage Temperature Range: -30°C to +80°C

ELECTRICAL

Electrical Life:
 50,000 cycles for 160gf
 30,000 cycles for 260gf, 320gf, 520gf
 Rating: 50mA, 12VDC

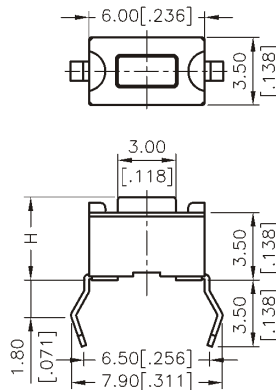
PACKAGE

Tube: 135 pcs/tube
 DTSM(L)-31: 1800 pcs/reel
 DTSM(L)-32: 1600 pcs/reel
 Bulk: 1000 pcs/bag

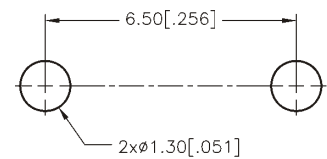
CIRCUIT



DTS-3

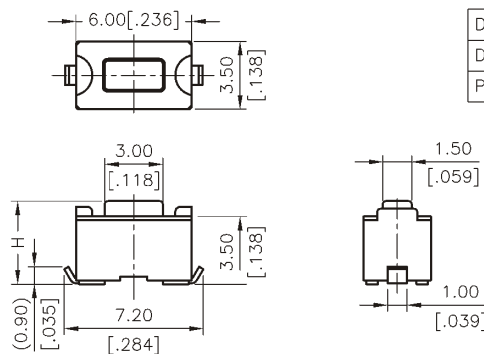


DTS-32	5.00 [.197]
DTS-31	4.30 [.169]
PART NO.	H

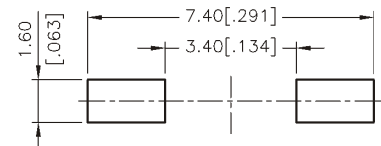


P.C.B. LAYOUT

DTSM-3



DTSM-32	5.00 [.197]
DTSM-31	4.30 [.169]
PART NO.	H



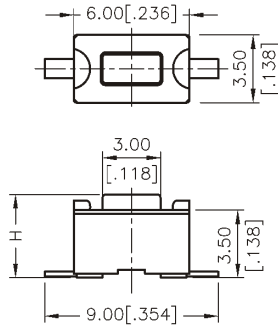
P.C.B. LAYOUT

DTS-3,DTSM(L)-3 SERIES

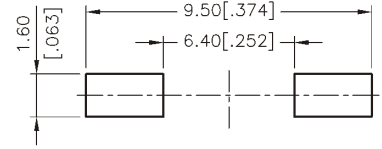
3.5x6 Through Hole & SMT Type Tactile Switch



DTSM L-3

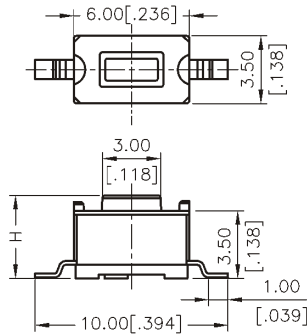


DTSM L-32	5.00 [.197]
DTSM L-31	4.30 [.169]
PART NO.	H

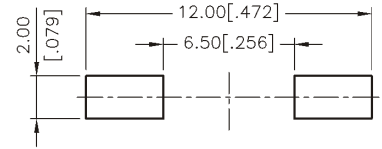


P.C.B. LAYOUT

DTSM F-3



DTSM F-32	5.00 [.197]
DTSM F-31	4.30 [.169]
PART NO.	H



P.C.B. LAYOUT

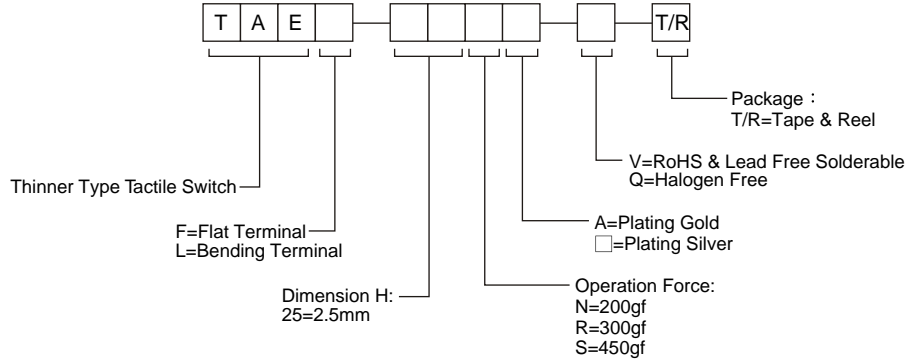
TACT SWITCH

TAE SERIES

3.8x6 Thinner Type Tactile Switch



HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force: 200gf (N)
300gf (R)
450gf (S)

Stroke: 0.30±0.15mm (N)
0.35±0.15mm (R)
0.45±0.15mm (S)

ENVIRONMENTAL

Operation Temperature Range : -40°C to +85°C
Storage Temperature Range : -40°C to +85°C

ELECTRICAL

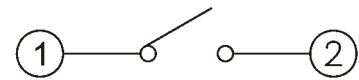
Electrical Life: 200,000 cycles (N, R)
100,000 cycles (S)

Rating: 25mA, 24VDC

PACKAGE

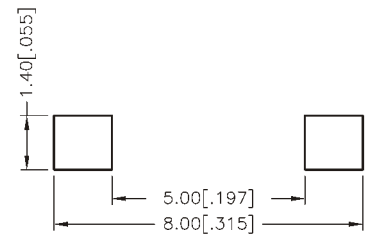
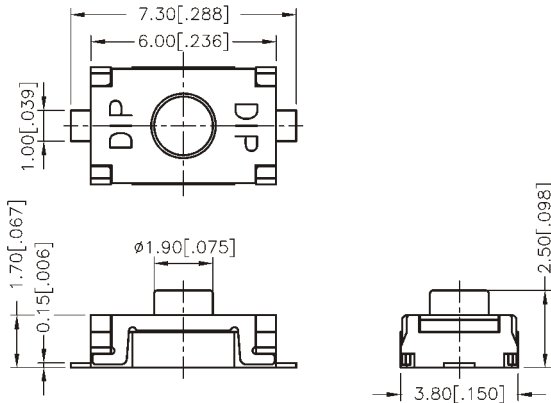
Tape & Reel: 2700 pcs/reel

CIRCUIT



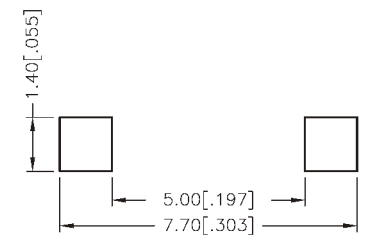
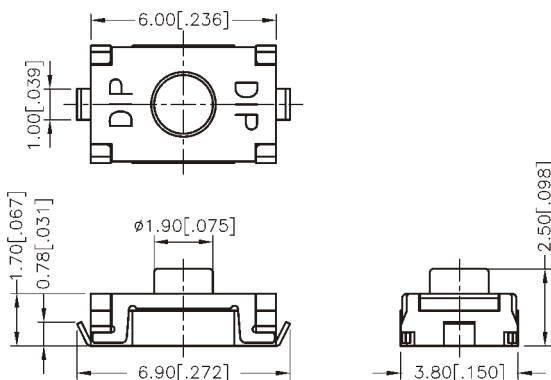
TACT SWITCH

TAEF-25



P.C.B. LAYOUT

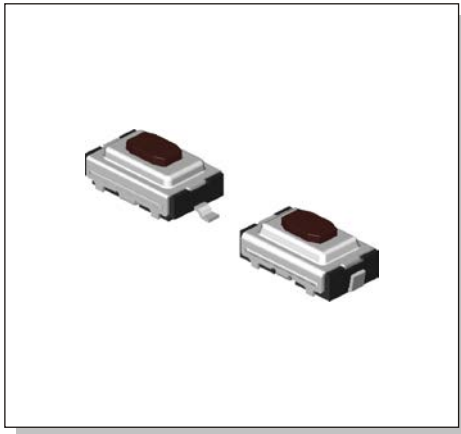
TAEI-25



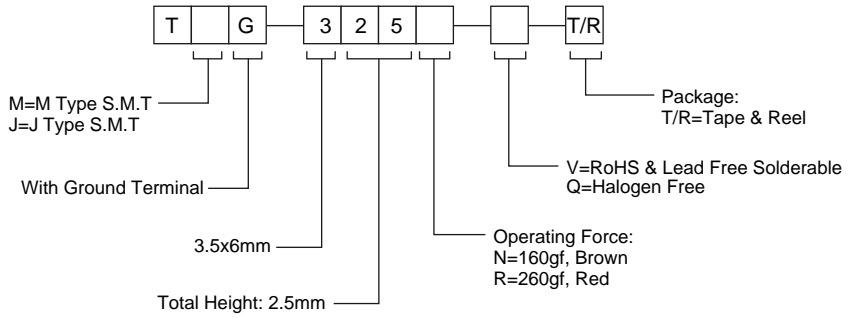
P.C.B. LAYOUT

TMG | TJG-325 SERIES

3.5x6 Thinner Type Tactile Switch



HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force: 260 ± 50gf Red(R)
160 ± 50gf Brown(N)
Stroke : 0.25+0.2/-0.1mm

ENVIRONMENTAL

Operation Temperature Range : -25°C to +70°C
Storage Temperature Range : -30°C to +80°C

ELECTRICAL

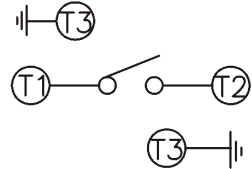
Electrical Life : 50,000 cycles for 160gf
20,000 cycles for 260gf
Rating : 50mA, 12VDC

PACKAGE

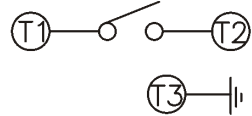
Tape and Reel: 2800 pcs/reel

CIRCUIT

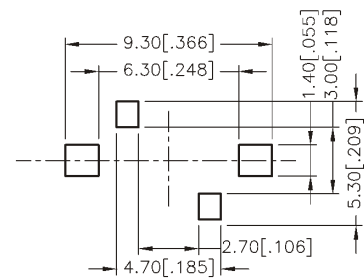
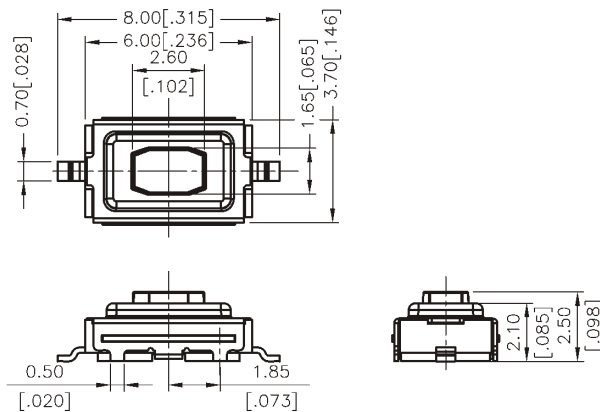
TMG-325



TJG-325

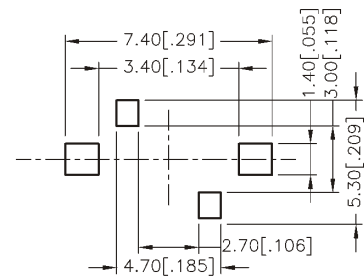
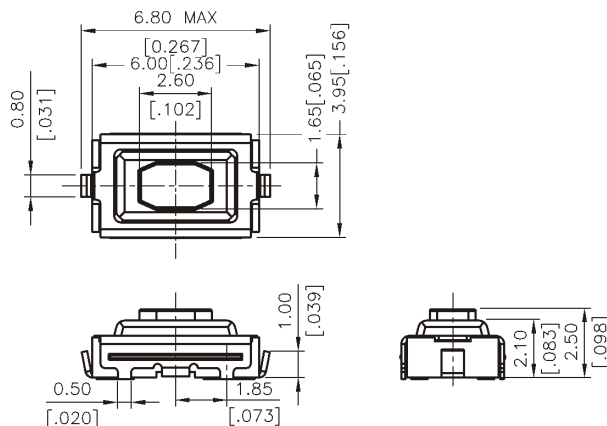


TMG-325



P.C.B. LAYOUT

TJG-325

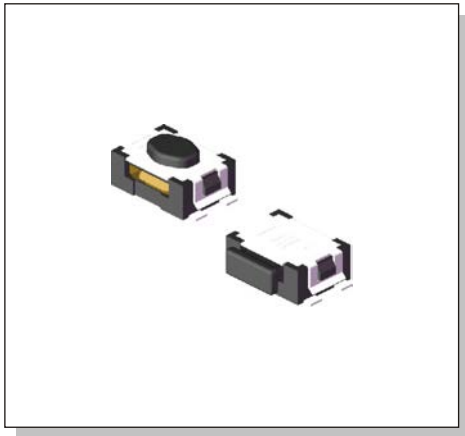


P.C.B. LAYOUT

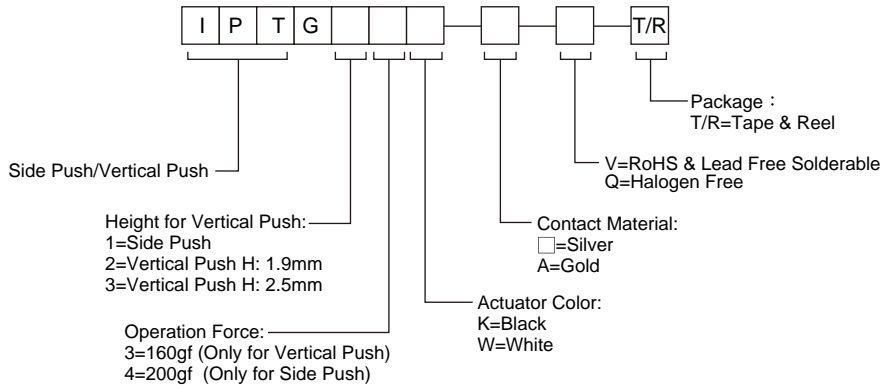
TACT SWITCH

IPT SERIES

2.8x3.8 Side Push / Vertical Push Type



HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force: 200±65gf (Side Push)
160±50gf (Vertical Push)
Stroke: 0.20±0.1mm (Side Push)
0.13±0.1mm (Vertical Push)

ENVIRONMENTAL

Operation Temperature Range : -30°C to +80°C
Storage Temperature Range : -40°C to +85°C

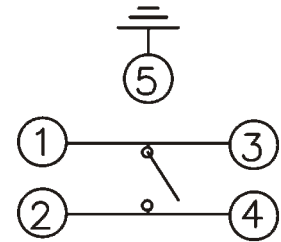
ELECTRICAL

Electrical Life: 50,000 cycles min
Rating : 50mA, 12VDC

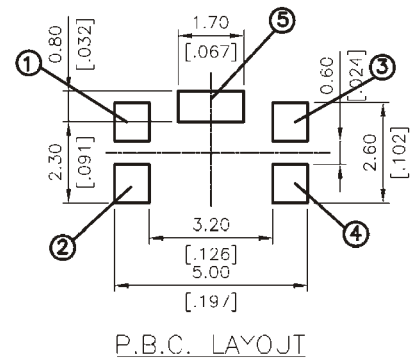
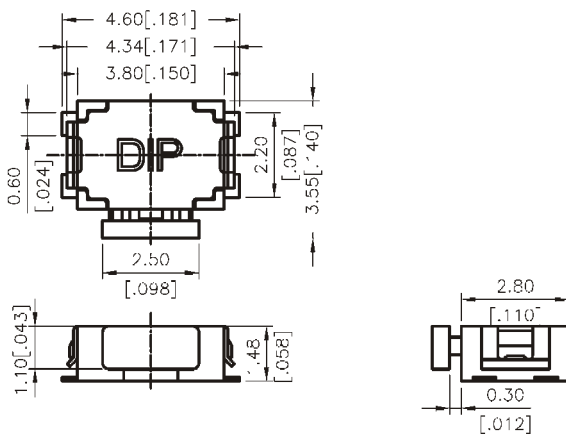
PACKAGE

IPTG14K: 3500 pcs/reel
IPTG23K: 7000 pcs/reel
IPTG33K: 6300 pcs/reel

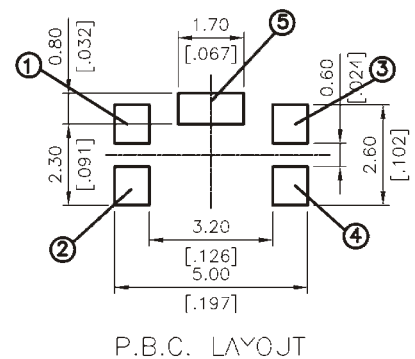
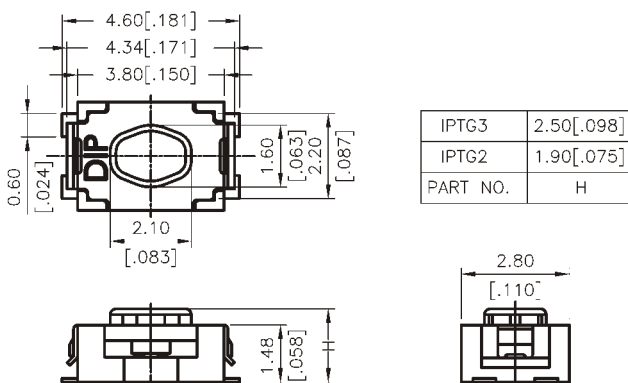
CIRCUIT

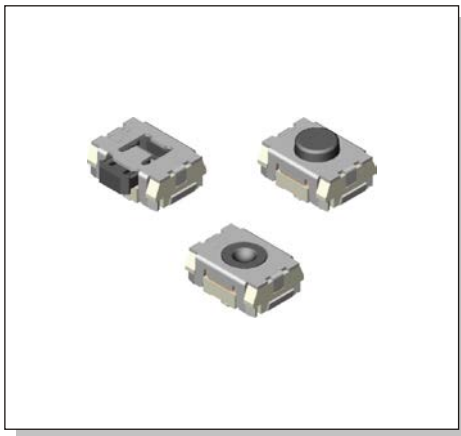


IPTG1

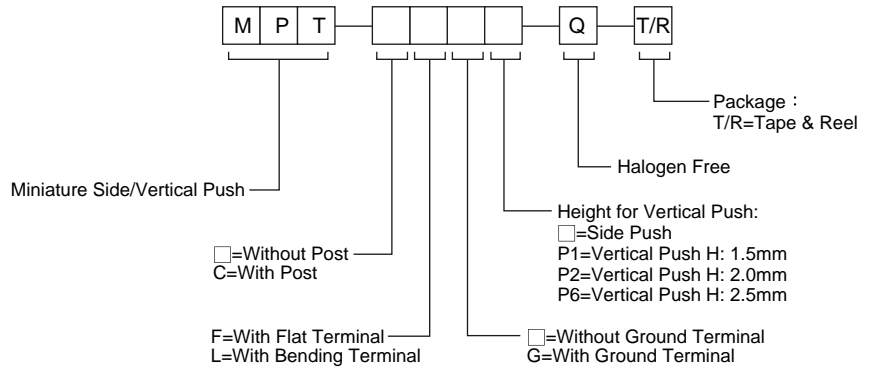


IPTG □





HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force: 220±65gf Side push
 160±50gf Vertical push
 Stroke: 0.2±0.1mm Side push
 0.13±0.1mm Vertical push

ENVIRONMENTAL

Operation Temperature Range : -25°C to +70°C
 Storage Temperature Range : -30°C to +80°C

ELECTRICAL

Electrical Life: 100,000 cycles.
 Rating : 50mA, 12VDC

PACKAGE

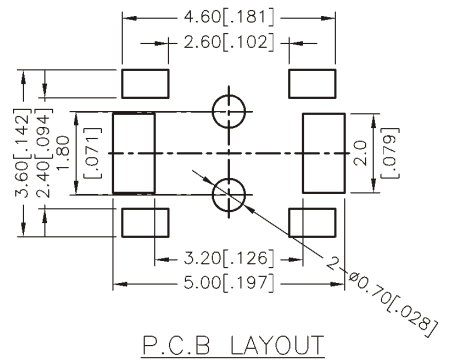
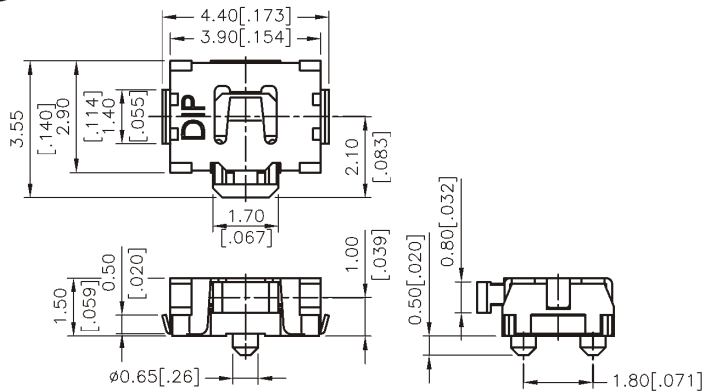
Side push type: 3500 pcs/reel
 Vertical push type: 2000 pcs/reel

CIRCUIT

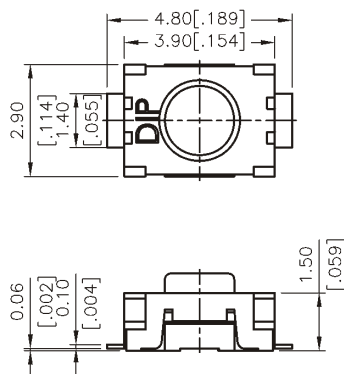


TACT SWITCH

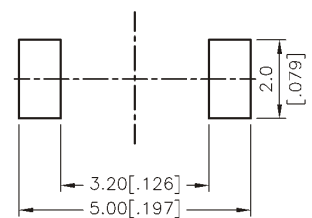
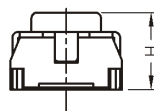
MPTCLG



MPTFP



MPTFP6	2.50 [.098]
MPTFP2	2.00 [.079]
MPTFP1	1.50 [.059]
PART NO.	H

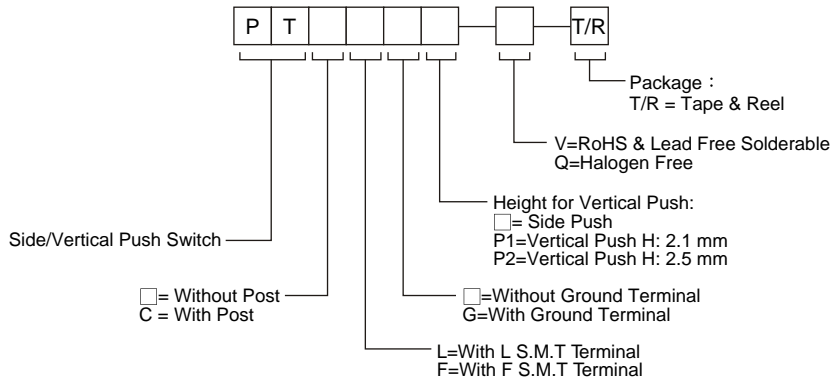


PT(C)L, PT(C)F SERIES

3.5x4.7 Side Push & Vertical Push Type



HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force: 220+80/ - 70gf Side push
160±50gf Vertical push
Stroke: 0.30+ 0.1mm/ - 0.15mm Side push
0.20±0.1mm Vertical push

ENVIRONMENTAL

Operation Temperature Range : -25°C to +70°C
Storage Temperature Range : -30°C to +80°C

ELECTRICAL

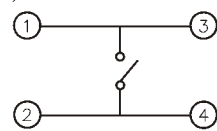
Electrical Life: 100,000 cycles min.
Rating : 50mA, 12VDC

PACKAGE

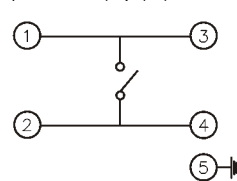
Side push type: 3000 pcs/reel
Vertical push type: 2400 pcs/reel

CIRCUIT

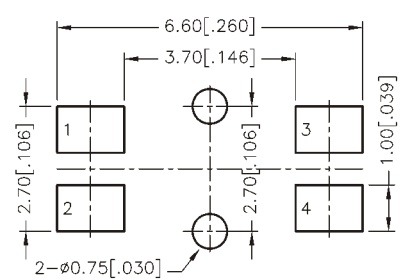
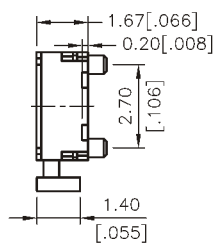
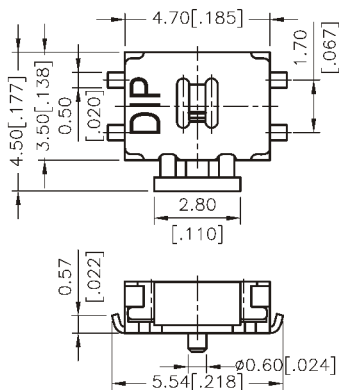
PT(L)(F)



PT(L)(F)G, PTC(L)(F)GP

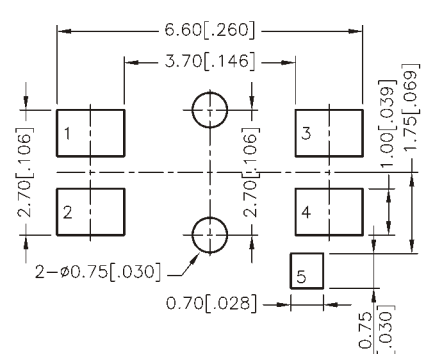
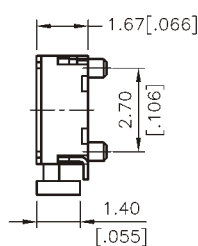
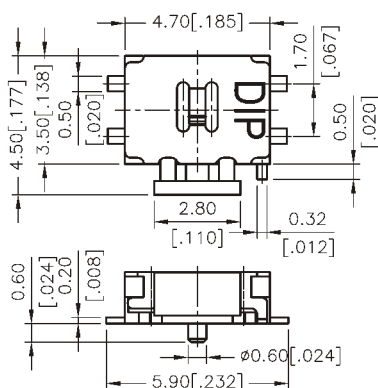


PTCL



P.C.B. LAYOUT

PTCFG



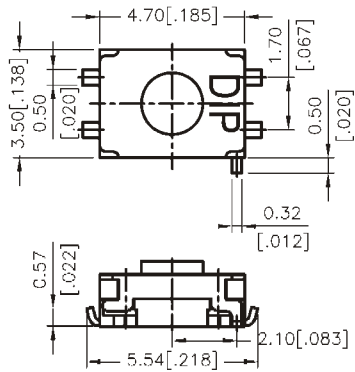
P.C.B. LAYOUT

PT(C)L, PT(C)F SERIES

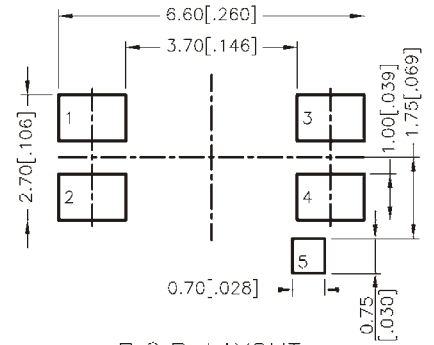
3.5x4.7 Side Push & Vertical Push Type



PTLGP

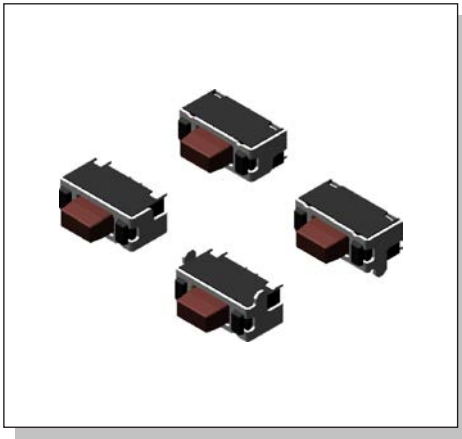


PILGP2	2.50 [.098]
PTLGP1	2.10 [.083]
PART NO.	H

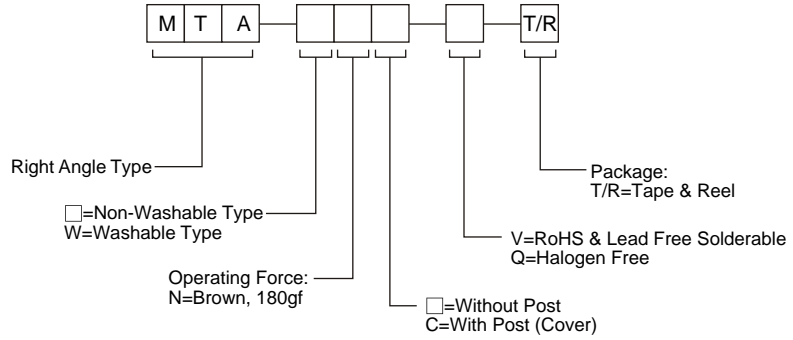


MTA SERIES

1.8x4.5 Side Push Sealed Type



HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force : 180±50gf
 Stroke : 0.2±0.1mm

ENVIRONMENTAL

Operation Temperature Range : -30°C to +80°C
 Storage Temperature Range : -40°C to +90°C

ELECTRICAL

Electrical Life: 100,000 cycles
 Switching Rating: 50 mA, 12 VDC

PACKAGE

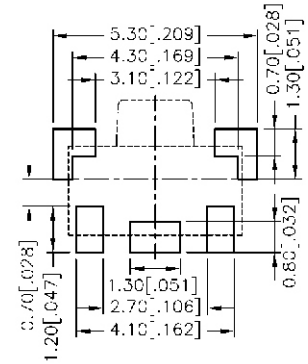
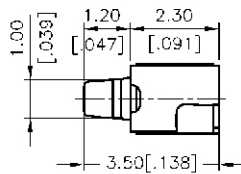
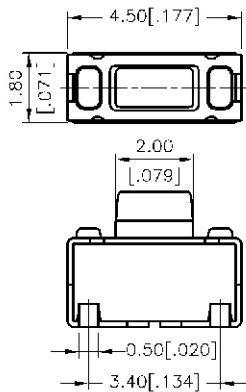
3000 pcs/reel

CIRCUIT

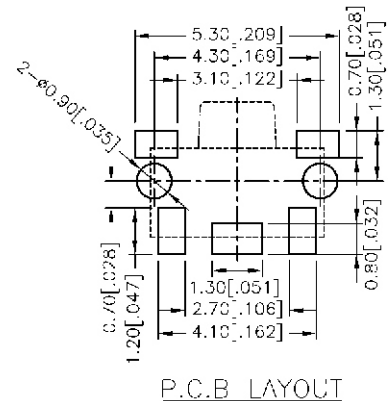
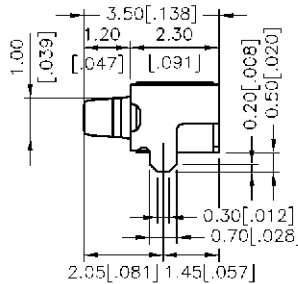
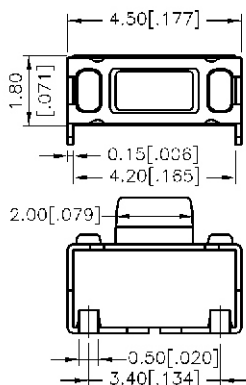


TACT SWITCH

MTA-WN



MTA-WNC

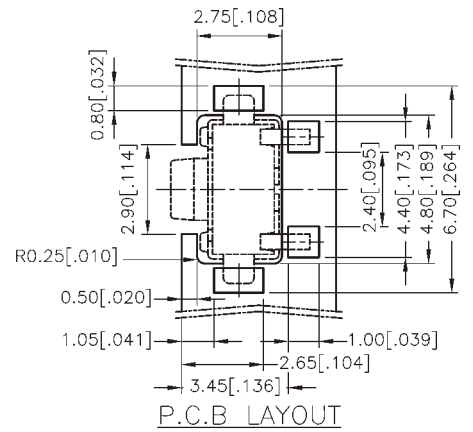
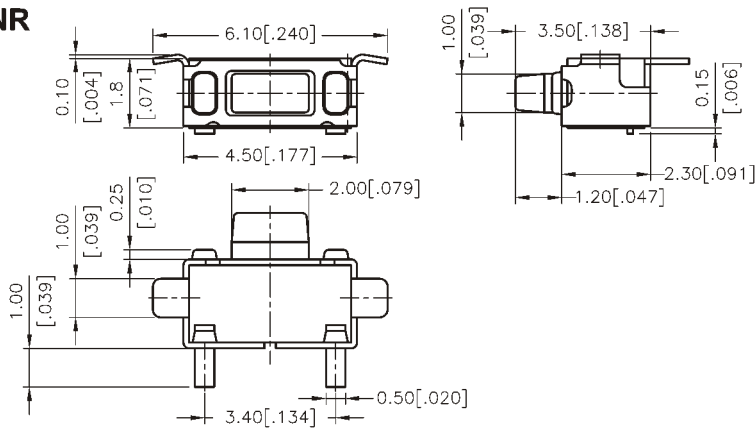


MTA SERIES

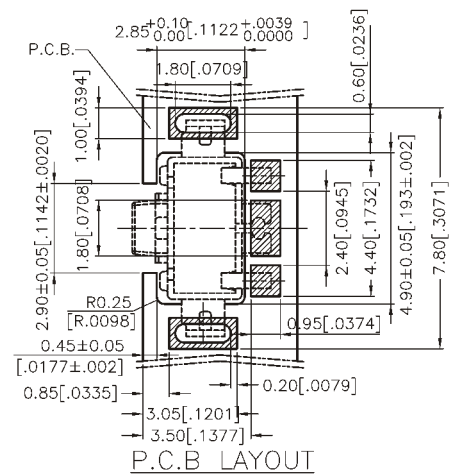
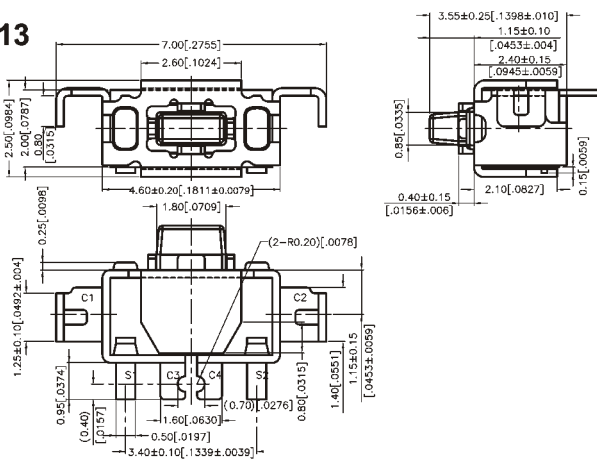
1.8x4.5 Side Push Sealed Type



MTA-NR



MTA-NR-ATL13



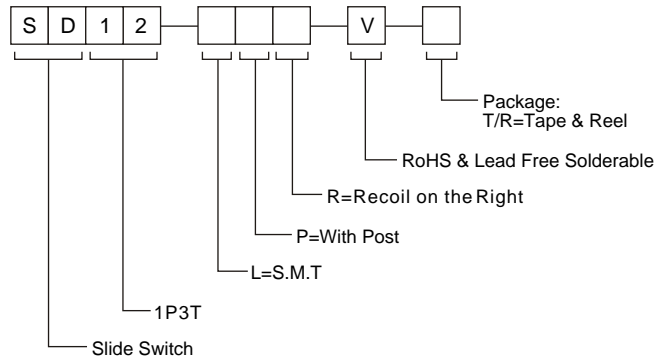
TACT SWITCH

SLIDE SWITCH

Series	Poles-Positions	Page	
	SD12	1-2, 1-3	98
	SE14	1-4	99
	SSS	1-2	100
	LSS	1-2, 2-2	101
	SS3	1-2	103
	SS4	1-3	105
	MSS3, MSS4	1-2, 1-3	107
	MSS6, MSS14	2-2, 1-4	108
	S2S	1-2, 1-3	109
	SC12P	1-2	110
	ZSS	1-2	111
	NSS	1-3	113



HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force: 150±100gf
Stroke: 1.50mm

ENVIRONMENTAL

Operation Temperature Range : -10°C to +60°C
Storage Temperature Range : -25°C to +85°C

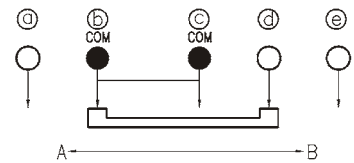
ELECTRICAL

Electrical Life: 5,000 cycles
Rating: 0.3A, 15V DC

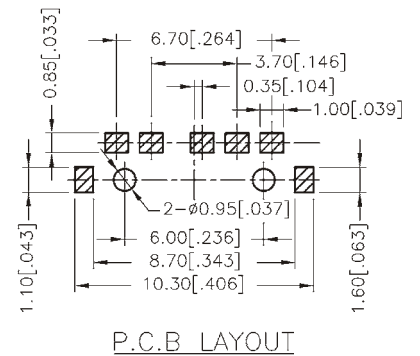
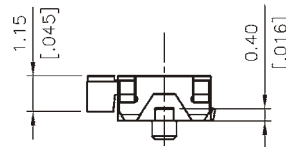
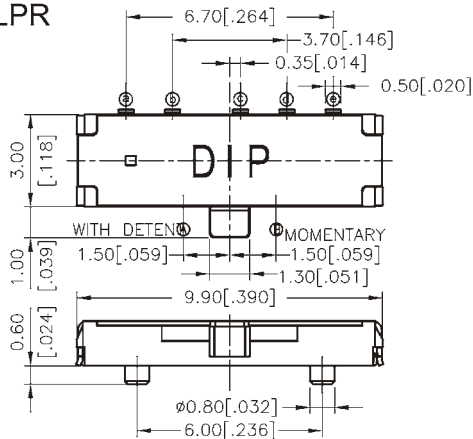
PACKAGE

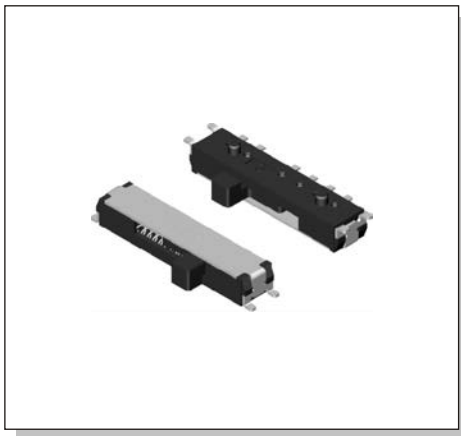
Tape & Reel: 3,000 pcs/reel

CIRCUIT

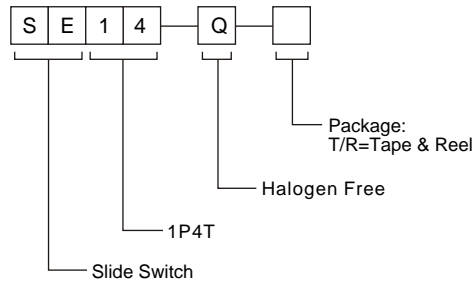


SD12-LPR





HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force:

B→A	50~190gf (0.49~1.86N)
B→C	50~190gf (0.94~1.86N)
B→E	170~530gf (1.67~5.19N)
E→B	50~250gf (0.94~2.45N)

Stroke:

B→A	1.5mm
B→C	1.5mm
B→E	3.0mm

ENVIRONMENTAL

Operation Temperature Range : -20°C to +80°C

Storage Temperature Range : -40°C to +85°C

ELECTRICAL

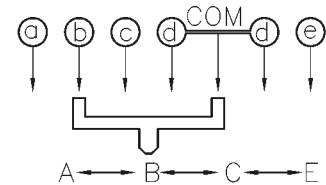
Electrical Life: 10,000 cycles

Rating: 0.30A, 10V DC

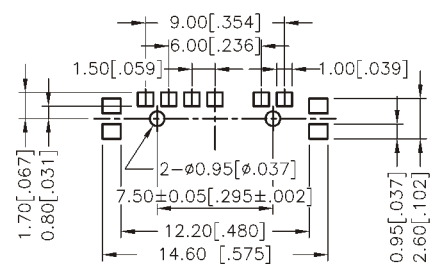
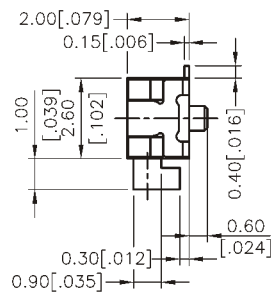
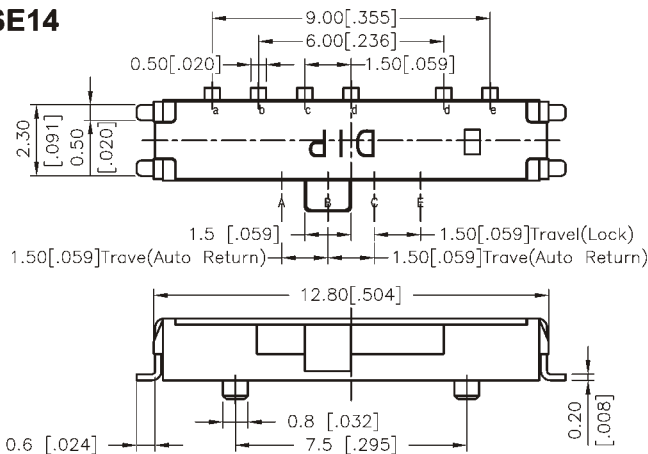
PACKAGE

Tape & Reel: 1,800 pcs/reel

CIRCUIT



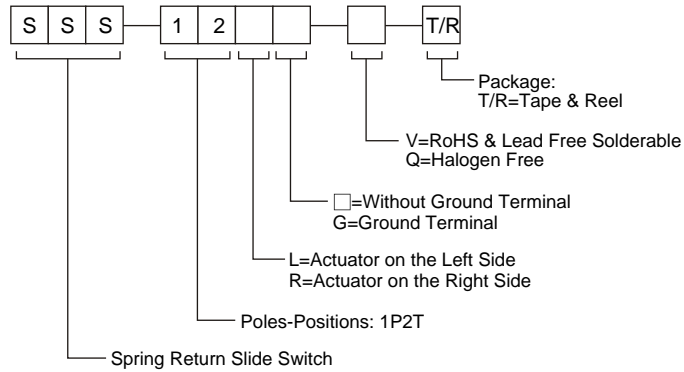
SE14



P.C.B LAYOUT



HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force: 180±70gf
Stroke: 2.7mm

ENVIRONMENTAL

Operation Temperature Range : -10°C to +60°C
Storage Temperature Range : -20°C to +75°C

ELECTRICAL

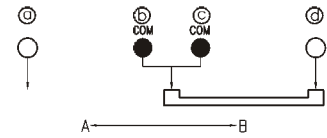
Electrical Life: 10,000 cycles
Rating: 0.3A, 4V DC

PACKAGE

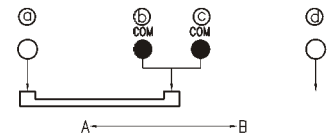
Tape & Reel: 2000 pcs/reel

CIRCUIT

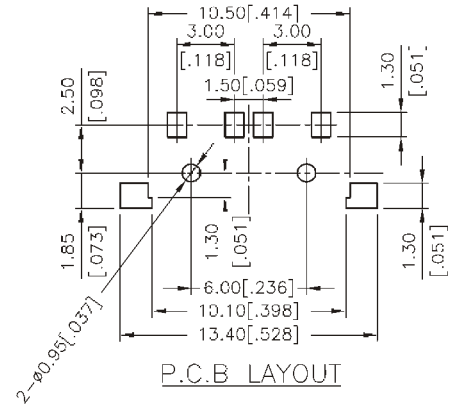
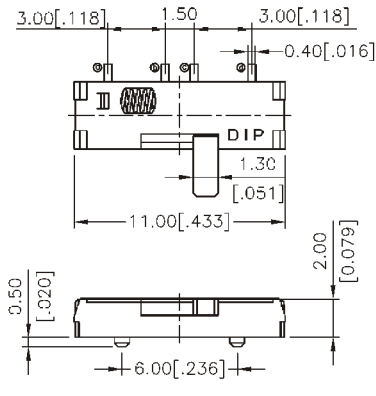
SSS-12R(G)



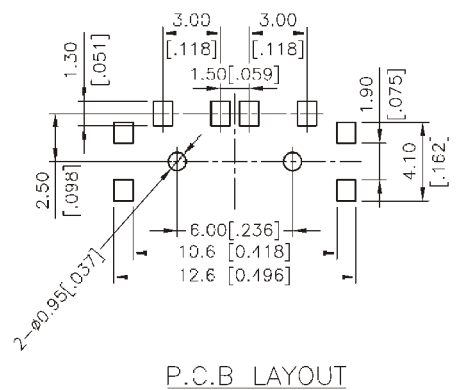
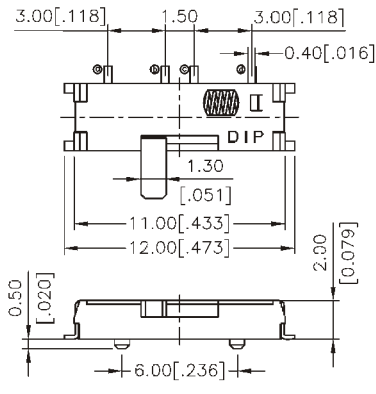
SSS-12L(G)

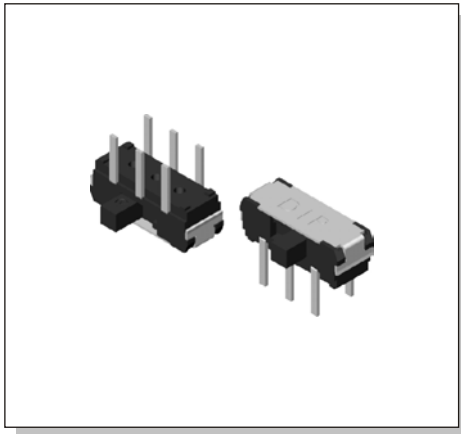


SSS-12R

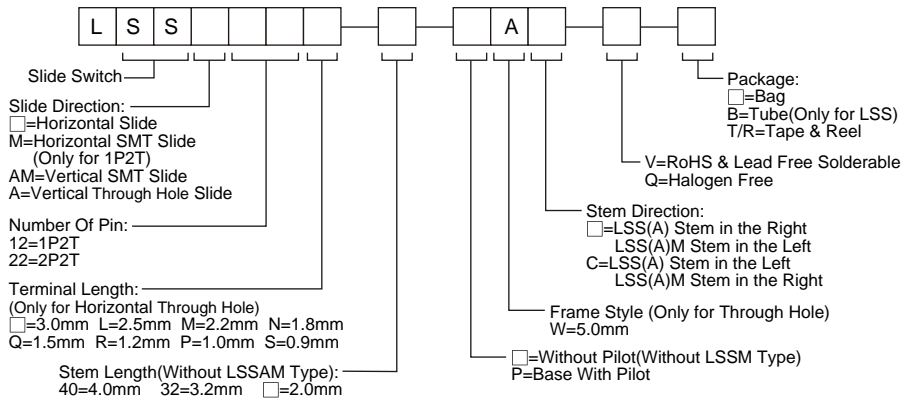


SSS-12LG





HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force: 200±150gf
 Stroke: 2mm

ENVIRONMENTAL

Operation Temperature Range : -10°C to +60°C
 Storage Temperature Range : -20°C to +70°C

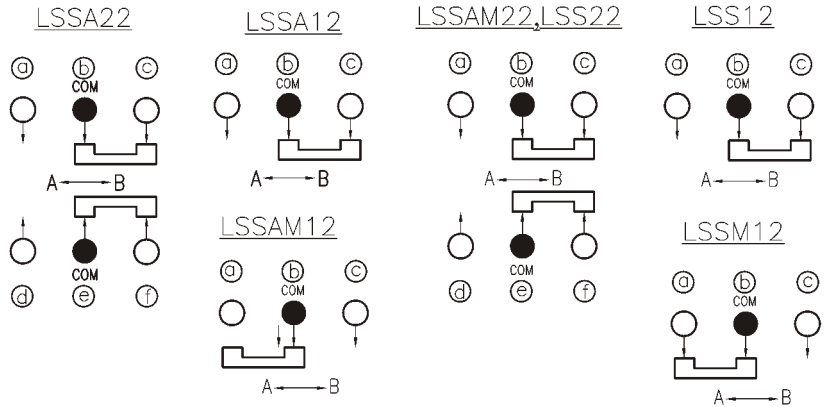
ELECTRICAL

Electrical Life: 10,000 cycles
 Rating: 0.1A, 12V DC

PACKAGE

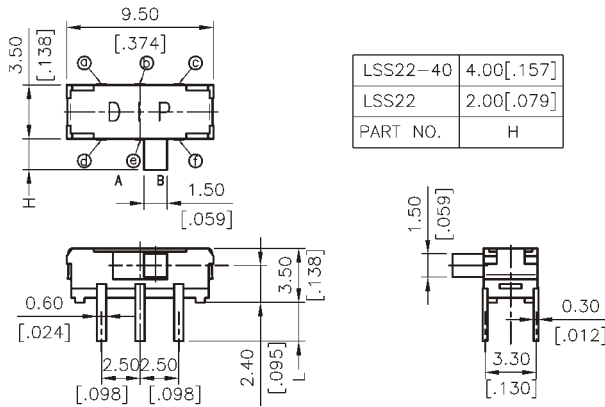
LSS12, 22-N,P,S,Q,R: 900 pcs/reel
 LSS12, 22-□,M,L: 800 pcs/reel
 LSS12, 22□-40: 800 pcs/reel
 LSSM12: 1000 pcs/reel
 LSSA12, 22: 1000 pcs/bag
 LSS□2, LSS□2M, LSS□2L: 50 pcs/tube

CIRCUIT

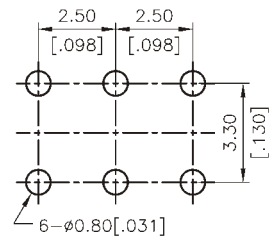


LSS22

LSS22R	1.20[.047]
LSS22Q	1.50[.059]
LSS22P	1.00[.039]
LSS22N	1.80[.070]
LSS22L	2.50[.098]
LSS22M	2.20[.087]
LSS22S	0.90[.035]
LSS22	3.00[.118]
PART NO.	L



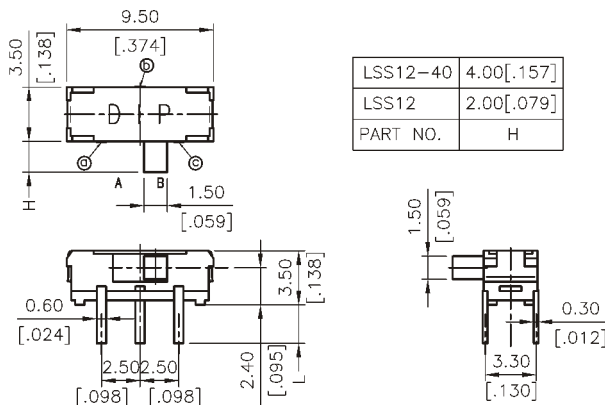
LSS22-40	4.00[.157]
LSS22	2.00[.079]
PART NO.	H



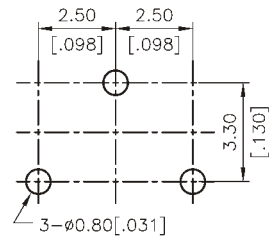
P.C.B LAYOUT

LSS12

LSS12R	1.20[.047]
LSS12Q	1.50[.059]
LSS12P	1.00[.039]
LSS12N	1.80[.070]
LSS12L	2.50[.098]
LSS12M	2.20[.087]
LSS12S	0.90[.035]
LSS12	3.00[.118]
PART NO.	L

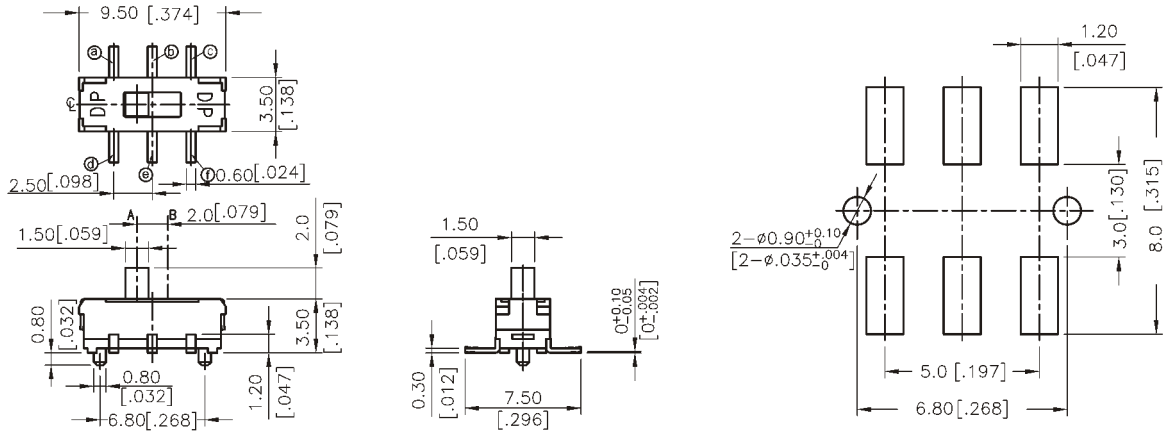


LSS12-40	4.00[.157]
LSS12	2.00[.079]
PART NO.	H

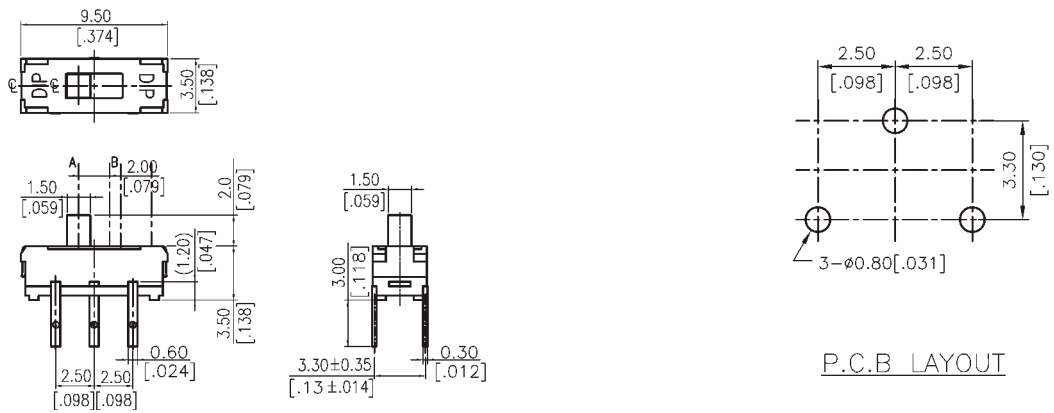


P.C.B LAYOUT

LSSAM22-P

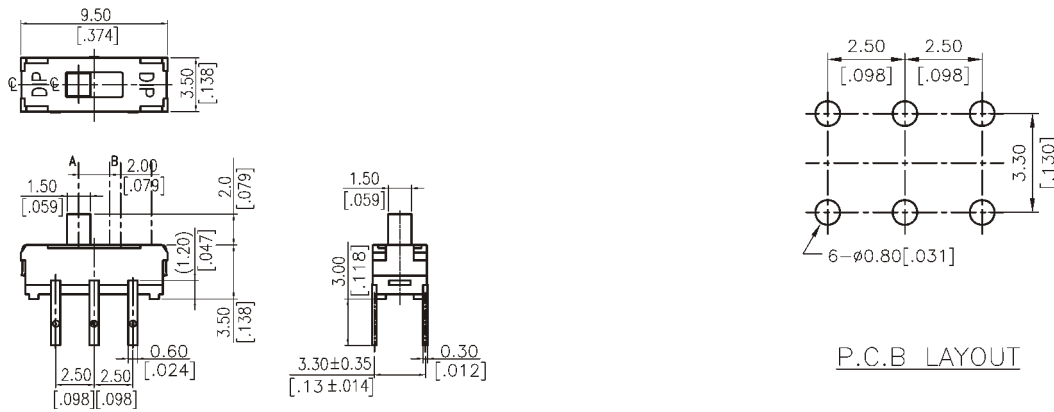


LSSA12



P.C.B. LAYOUT

LSSA22



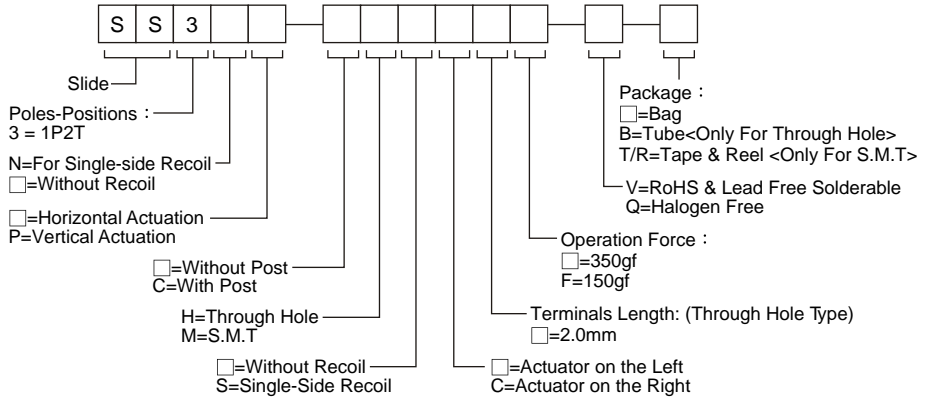
P.C.B. LAYOUT

SS3 SERIES

Recoil & SMT Type (1P2T)



HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force: 100gf min, 350gf max
Stroke: 2mm

ENVIRONMENTAL

Operation Temperature Range : -20°C to +70°C
Storage Temperature Range : -40°C to +85°C

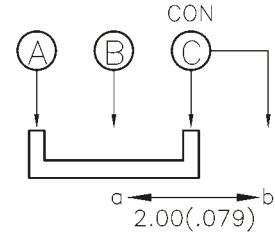
ELECTRICAL

Electrical Life: 10,000 cycles
Rating: 25mA, 24 VDC

PACKAGE

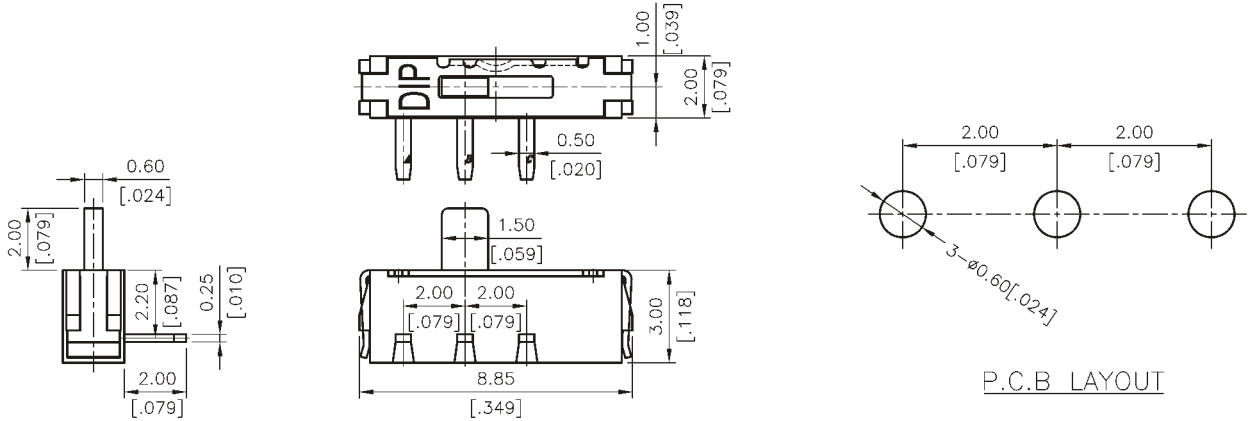
2000 pcs/bag
53 pcs/tube
1900 pcs/reel

CIRCUIT

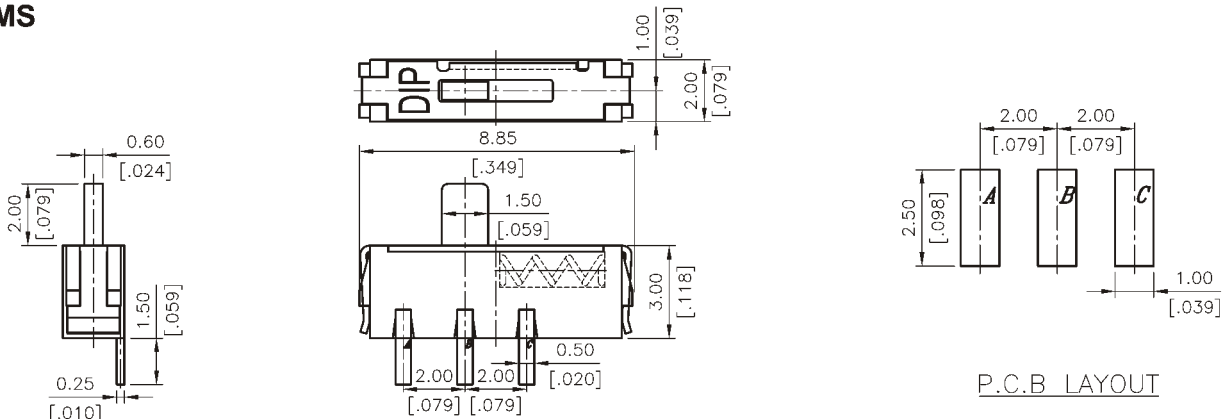


SLIDE SWITCH

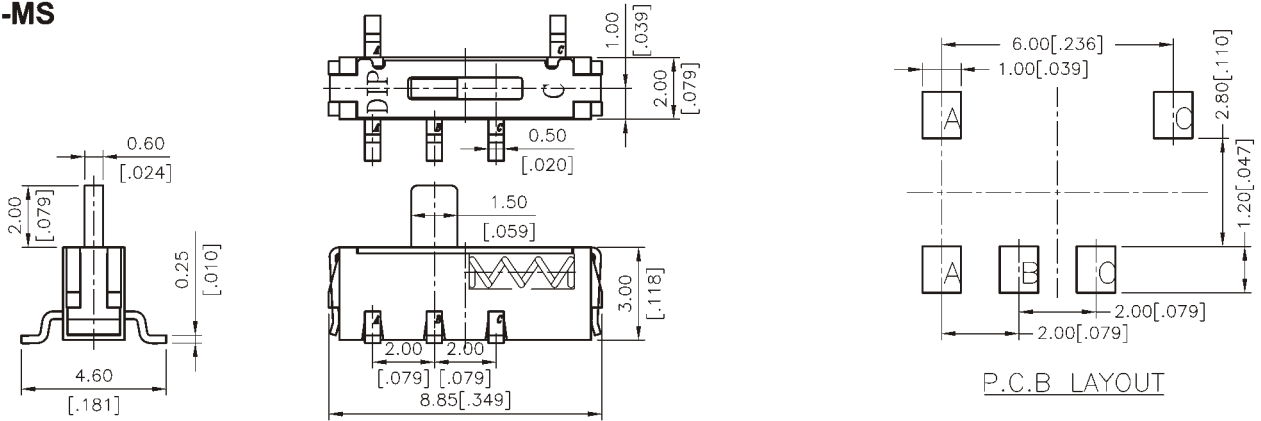
SS3-H



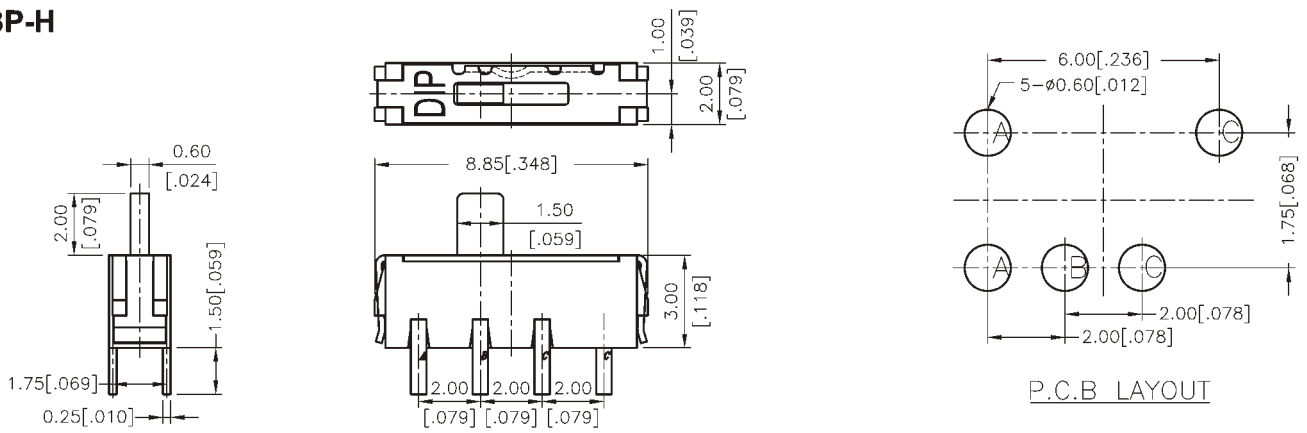
SS3N-MS



SS3NP-MS

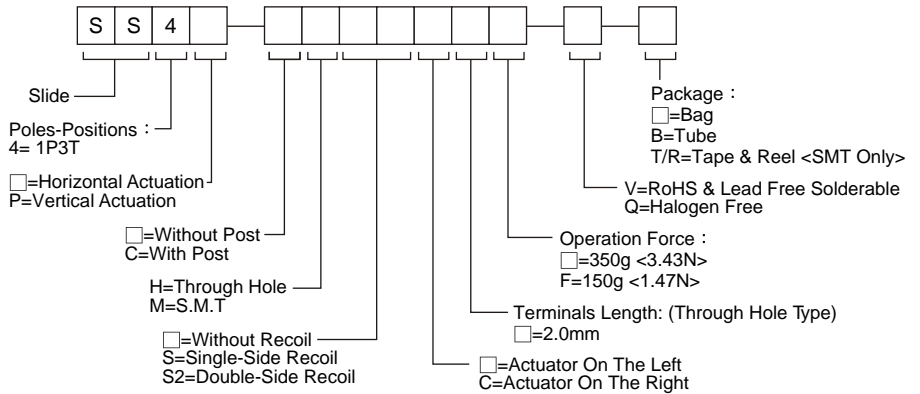


SS3P-H





HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force: 100gf min, 350gf max
Stroke: 2mm

ENVIRONMENTAL

Operation Temperature Range : -20°C to +70°C
Storage Temperature Range : -40°C to +85°C

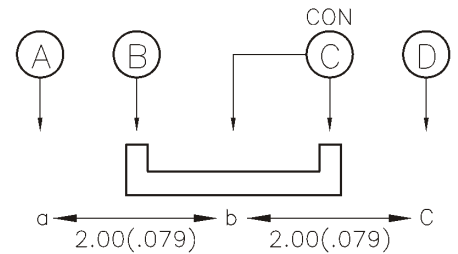
ELECTRICAL

Electrical Life: 10,000 cycles
Rating: 25mA, 24 VDC

PACKAGE

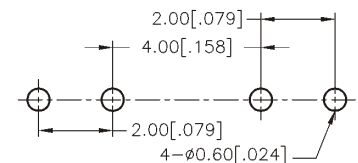
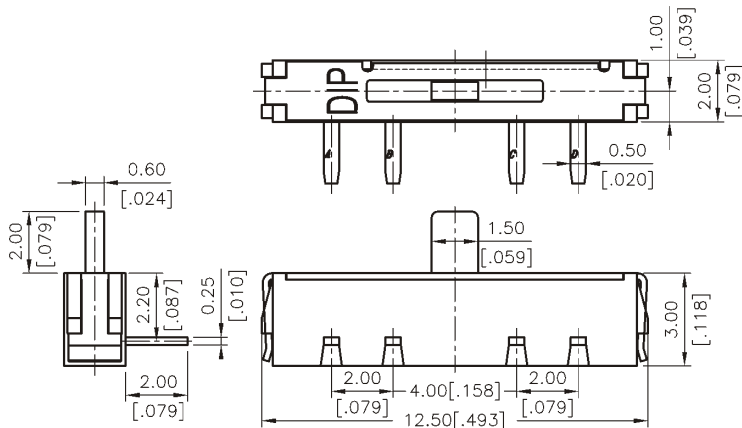
1500 pcs/bag
38 pcs/tube
1900 pcs/reel

CIRCUIT



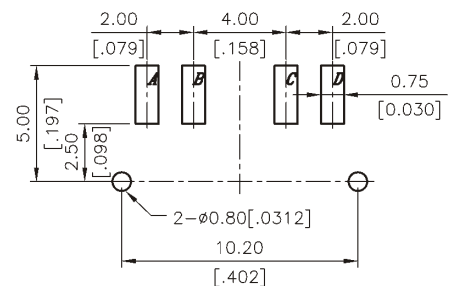
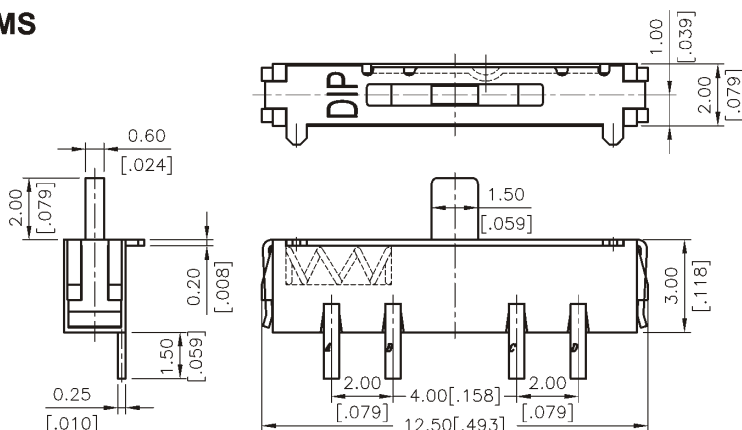
SLIDE SWITCH

SS4-H



P.C.B LAYOUT

SS4-CMS



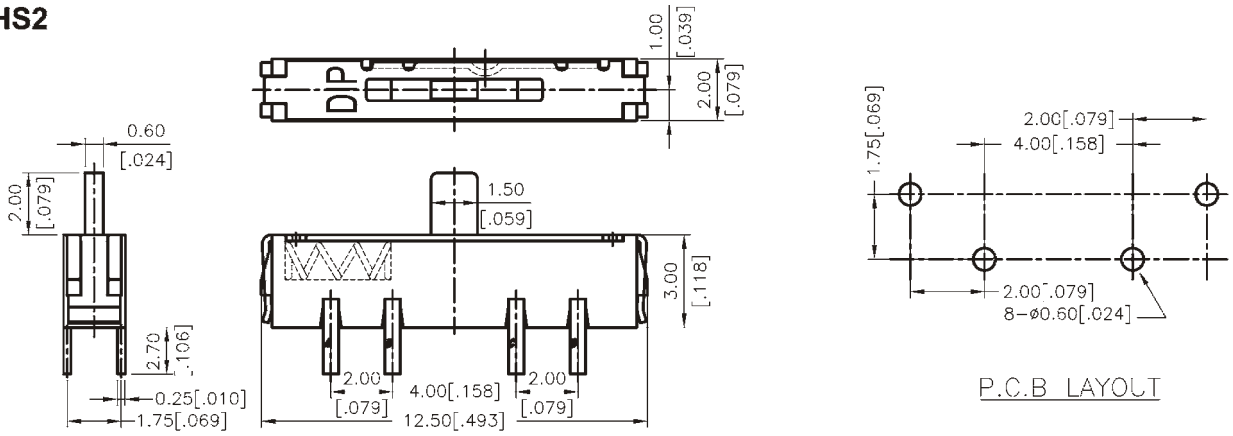
P.C.B LAYOUT

SS4 SERIES

Recoil & SMT Type (1P3T)



SS4P-HS2

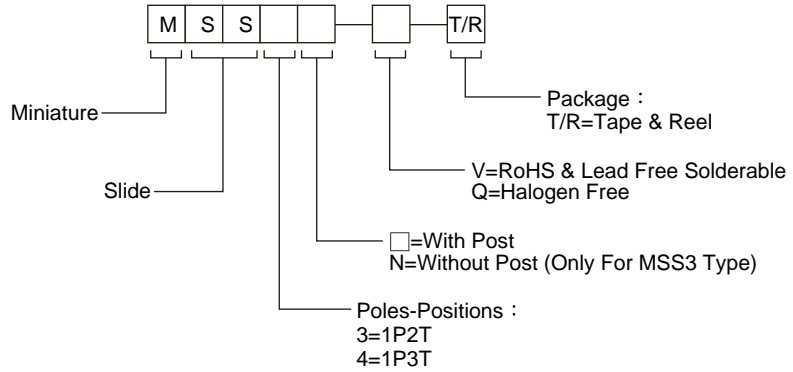


MSS3, MSS4 SERIES

Miniature SMT Type (1P2T, 1P3T)



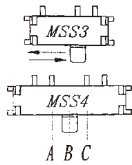
HOW TO ORDER



SPECIFICATION

MECHANICAL

Prod.	Operation Force
MSS3	150±100gf (1.47N±0.98N)
MSS4	A→B 150±100gf (1.47N±0.98N)
	B→C 200±150gf (1.96N±1.47N)
	C→B 150±100gf (1.47N±0.98N)
	B→A 200±150gf (1.96N±1.47N)



Stroke: 1.5mm

ENVIRONMENTAL

Operation Temperature Range : -20°C to +70°C
Storage Temperature Range : -40°C to +85°C

ELECTRICAL

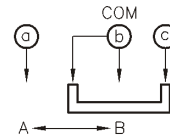
Electrical Life: 10,000 cycles
Rating: 25mA, 24 VDC

PACKAGE

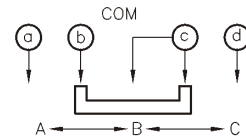
MSS3: 2500 pcs/reel
MSS4: 2500 pcs/reel

CIRCUIT

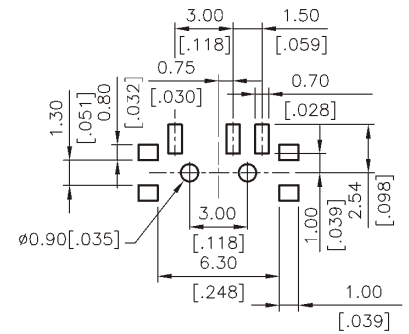
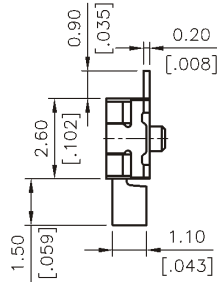
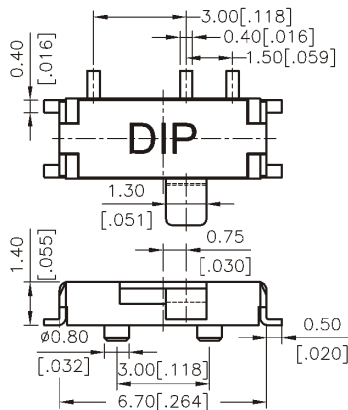
MSS3



MSS4

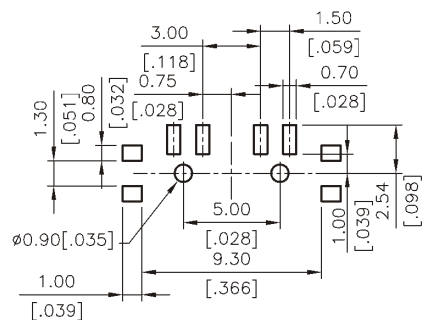
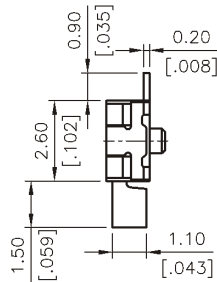
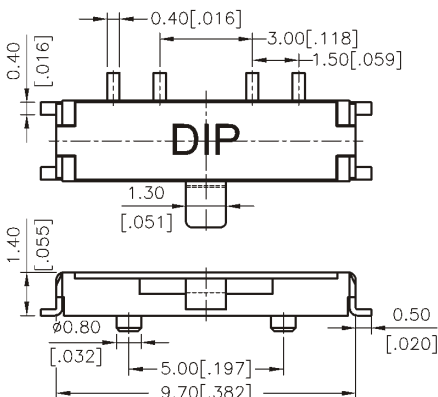


MSS3



P.C.B. LAYOUT

MSS4



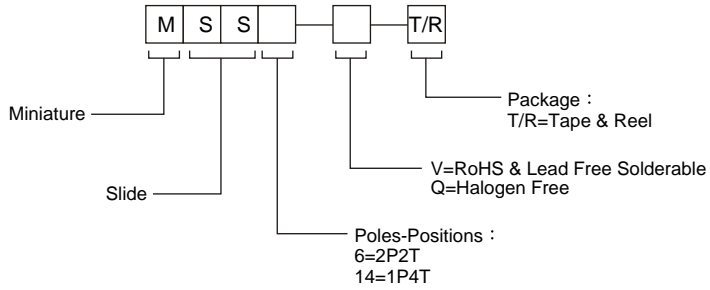
P.C.B. LAYOUT

MSS6, MSS14 SERIES

Miniature Travel & SMT Type (2P2T, 1P4T)



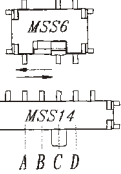
HOW TO ORDER



SPECIFICATION

MECHANICAL

Prod.	Operation Force
MSS6	200±150gf (1.96N±1.47N)
MSS14	B→C 200±150gf (1.96N±1.47N)
	C→D 200±150gf (1.96N±1.47N)
	C→B 200±150gf (1.96N±1.47N)
	B→A 200±150gf (1.96N±1.47N)
	A→B 150±100gf (1.47N±0.98N)
D→C 150±100gf (1.47N±0.98N)	



Stroke=1.5mm

ENVIRONMENTAL

Operation Temperature Range : -20°C to +70°C
Storage Temperature Range : -40°C to +85°C

ELECTRICAL

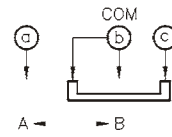
Electrical Life: 10,000 cycles
Rating: 25mA, 24 VDC

PACKAGE

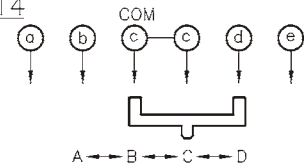
MSS6: 1400 pcs/reel
MSS14: 2500 pcs/reel

CIRCUIT

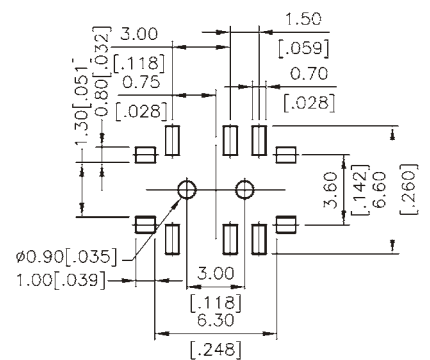
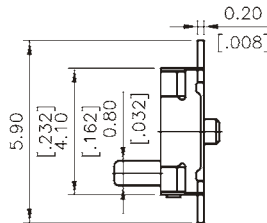
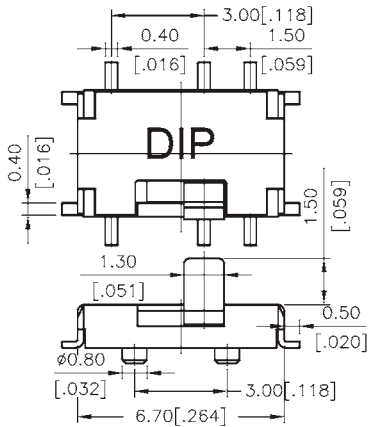
MSS6



MSS14

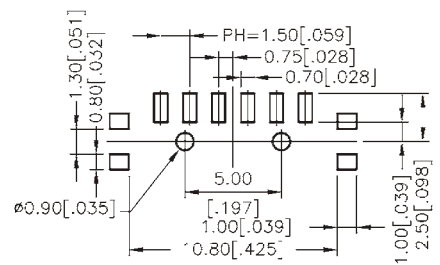
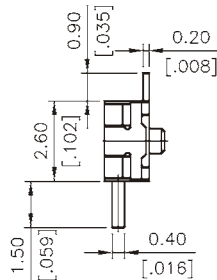
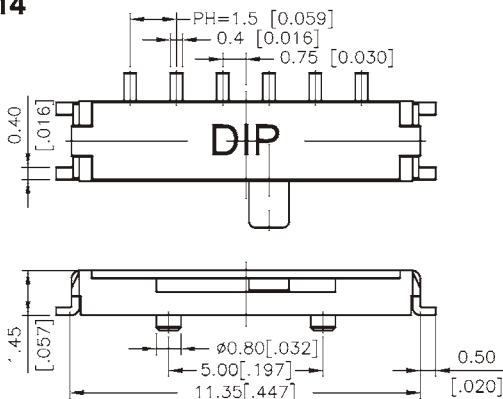


MSS6



P.C.B LAYOUT

MSS14

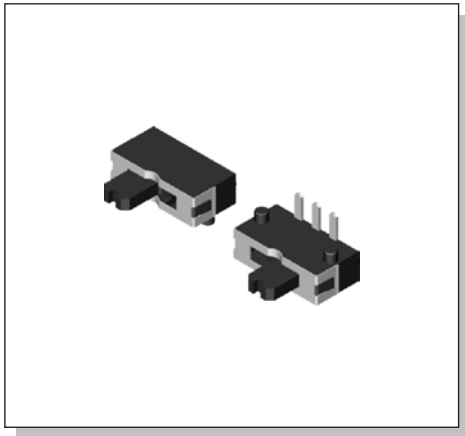


P.C.B LAYOUT

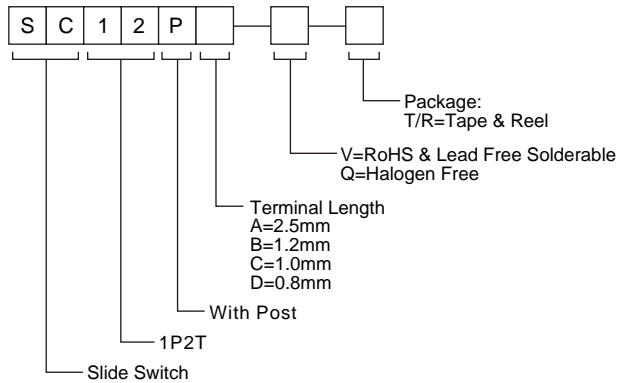
SLIDE SWITCH

SC12P SERIES

Slide Type (1P2T)



HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force: 100~300gf
 Stroke: 2.5±0.3mm

ENVIRONMENTAL

Operation Temperature Range : -10°C to +60°C
 Storage Temperature Range : -20°C to +75°C

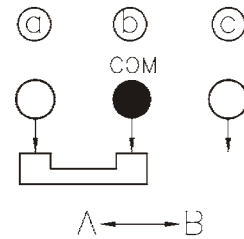
ELECTRICAL

Electrical Life: 10,000 cycles
 Rating: 0.3A, 10 VDC

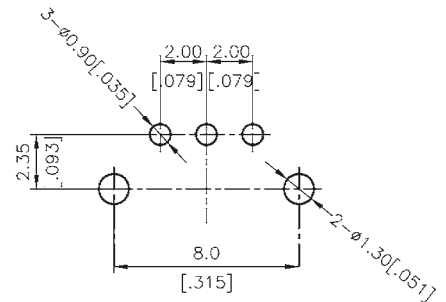
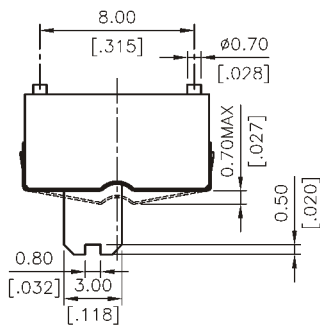
PACKAGE

Tape & Reel: 650 pcs/reel

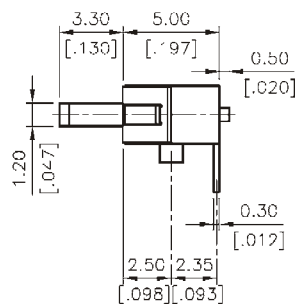
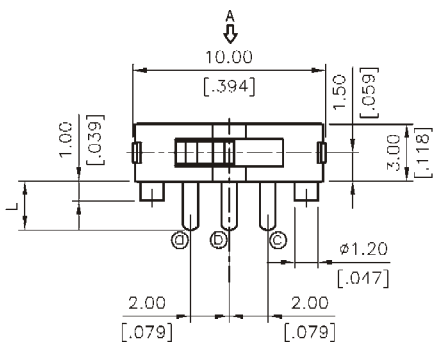
CIRCUIT



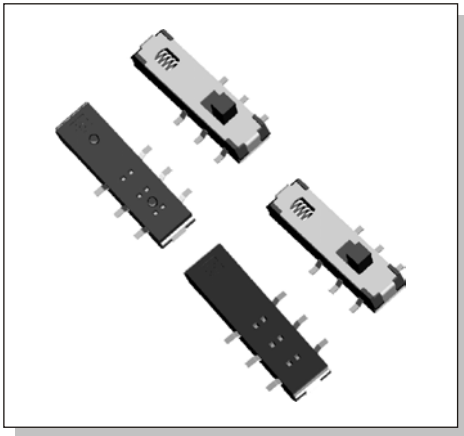
SC12P



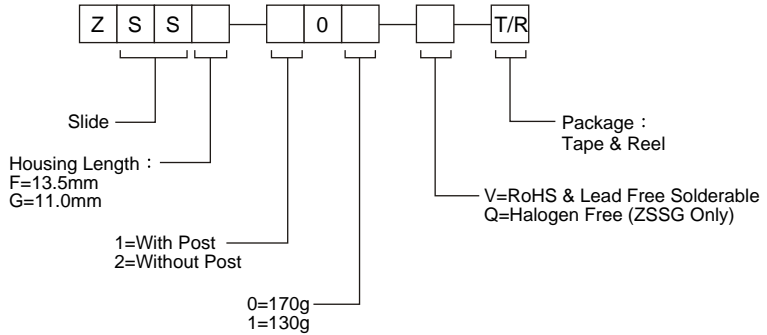
P.C.B. LAYOUT



SLIDE SWITCH



HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force: 80gf min, 220gf max
Stroke: 1.5mm

ENVIRONMENTAL

Operation Temperature Range : -20°C to +70°C
Storage Temperature Range : -40°C to +85°C

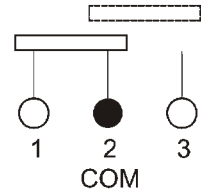
ELECTRICAL

Electrical Life: 25,000 cycles
Rating: 100mA, 12 VDC

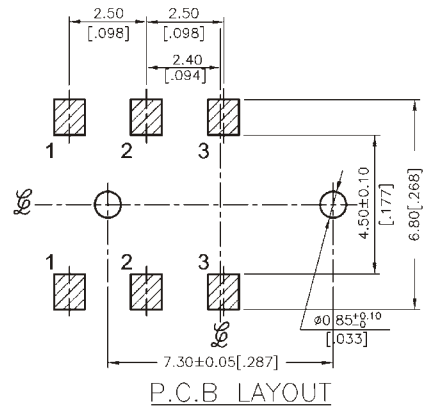
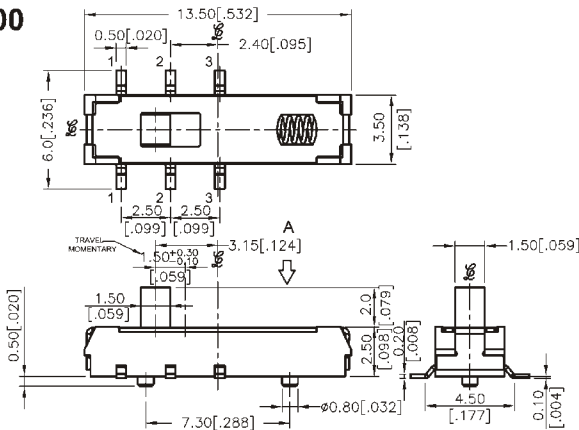
PACKAGE

1000 pcs/reel

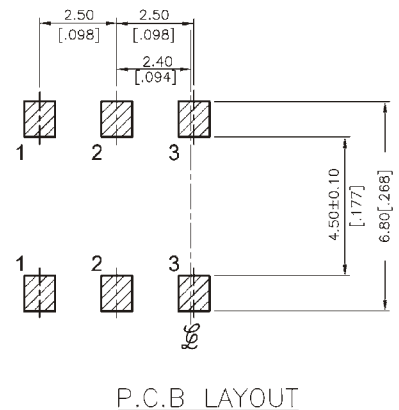
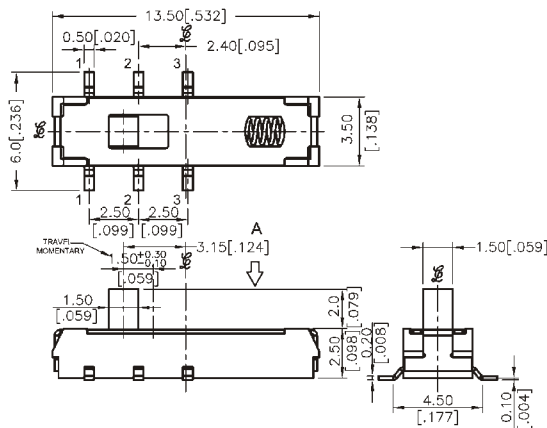
CIRCUIT

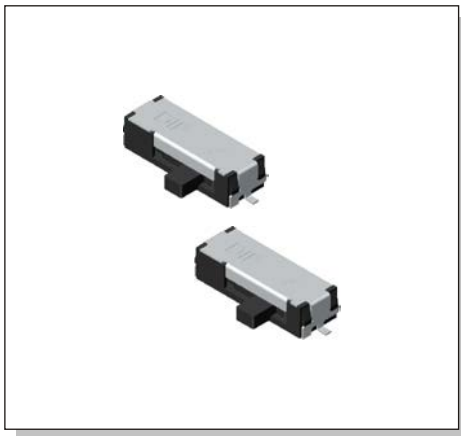


ZSSF-100

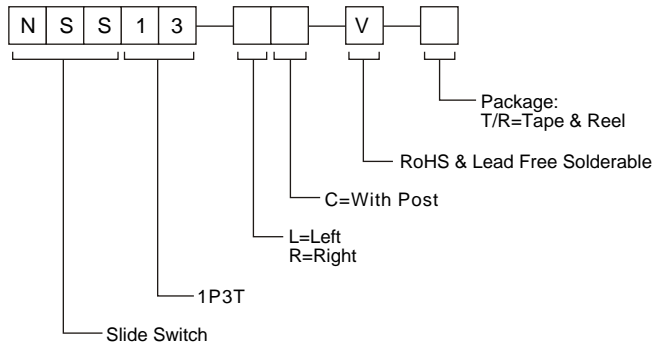


ZSSF-200





HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force: ON-OFF 500+100/-200gf
 OFF-ON 320±150gf
 ON-TEST 320±150gf

Stroke: ON-OFF 4mm
 OFF-ON 4mm
 ON-TEST 2mm

ENVIRONMENTAL

Operation Temperature Range : -20°C to +70°C
 Storage Temperature Range : -40°C to +85°C

ELECTRICAL

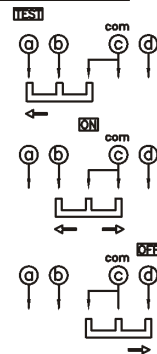
Electrical Life: 10,000 cycles
 Rating: 0.3A, 4V DC

PACKAGE

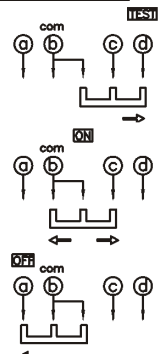
Tape & Reel: 800 pcs/reel

CIRCUIT

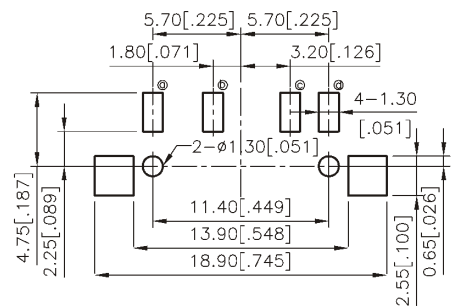
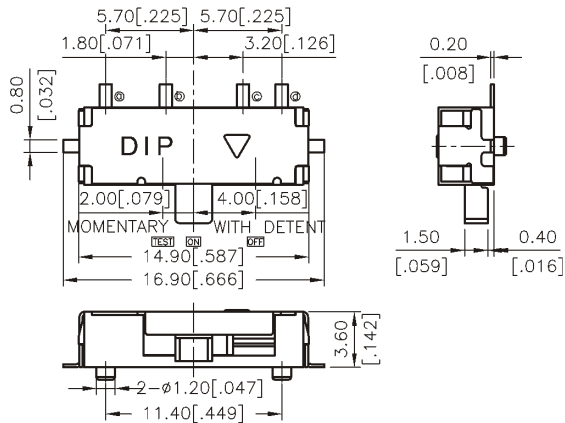
NSS13-LC



NSS13-RC

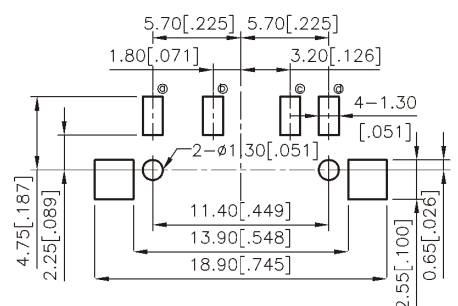
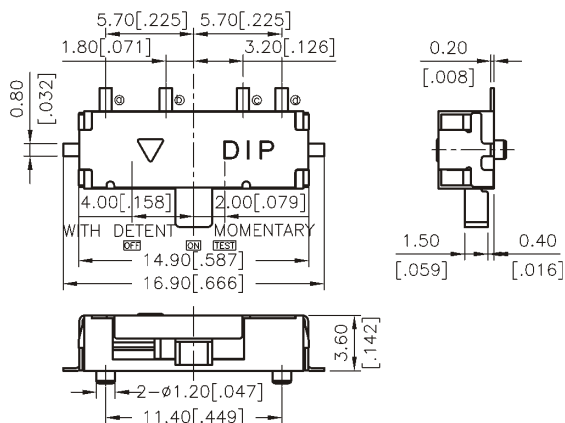


NSS13-LC



P.C.B. LAYOUT










NSS13-RC



P.C.B. LAYOUT

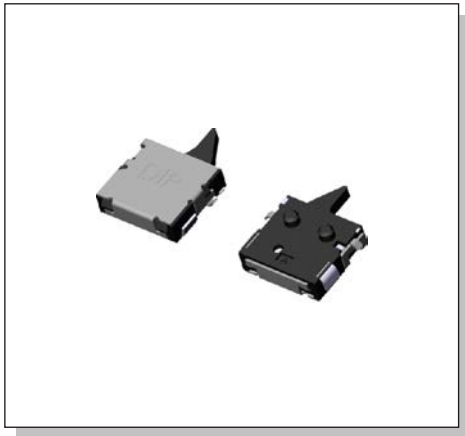
SLIDE SWITCH

DETECTOR SWITCH

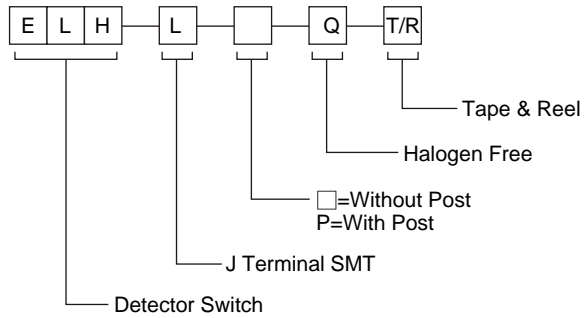
	Series	Features	Page
	ELH	H:1.0mm	115
	DTE	Two-way / Auto-return	116
	FTE	Normal Close / Normal Open	117
	TE-MR	H: 2.0mm	119
	TE	H:10.7 mm / 8.4 mm	121
	ATE	H:3.8 mm / 5.3 mm	123
	BTE	H:2.53 mm	125
	CTE	H:3.35 mm	127
	TU	H:3.05 mm	129

ELH SERIES

Detector Miniature Type (3.3x3.5mm)



HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force: 35gf max.
Stroke: 2.15±0.18 mm

ENVIRONMENTAL

Operation Temperature Range : -10°C to +60°C
Storage Temperature Range : -40°C to +85°C

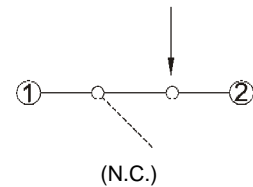
ELECTRICAL

Electrical Life: 50,000 cycles.
Rating: Min, 50_μA, 3V DC. Max. 1mA, 5V DC

PACKAGE

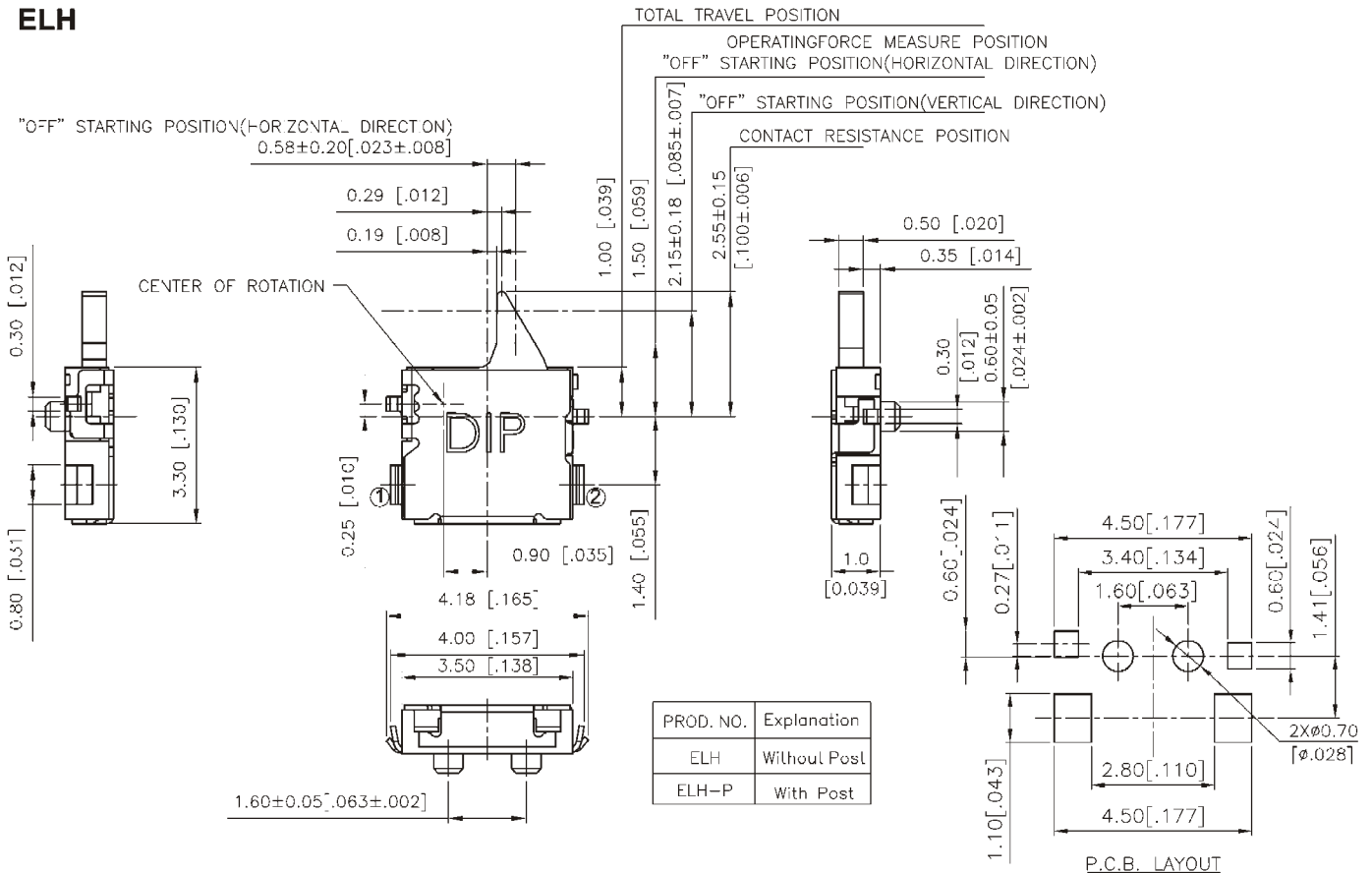
Tape & Reel: 3500 pcs/reel

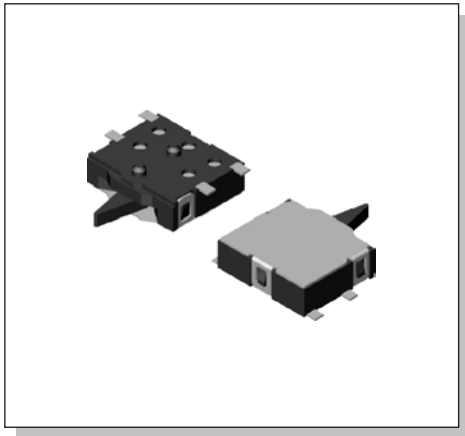
CIRCUIT



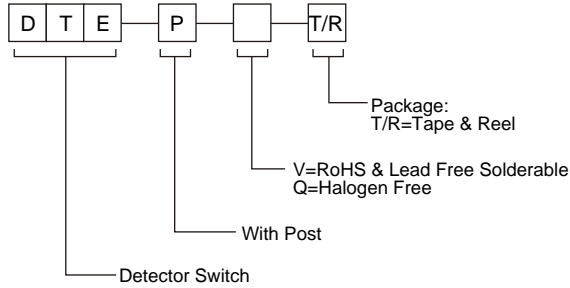
DETECTOR SWITCH

ELH





HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force: 30gf max.
Stroke: 1.5±0.3 mm

ENVIRONMENTAL

Operation Temperature Range : -10°C to +60°C
Storage Temperature Range : -20°C to +70°C

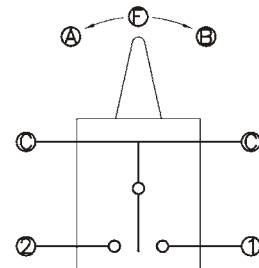
ELECTRICAL

Electrical Life: 100,000 cycles.
Rating: 10mA, 5VDC

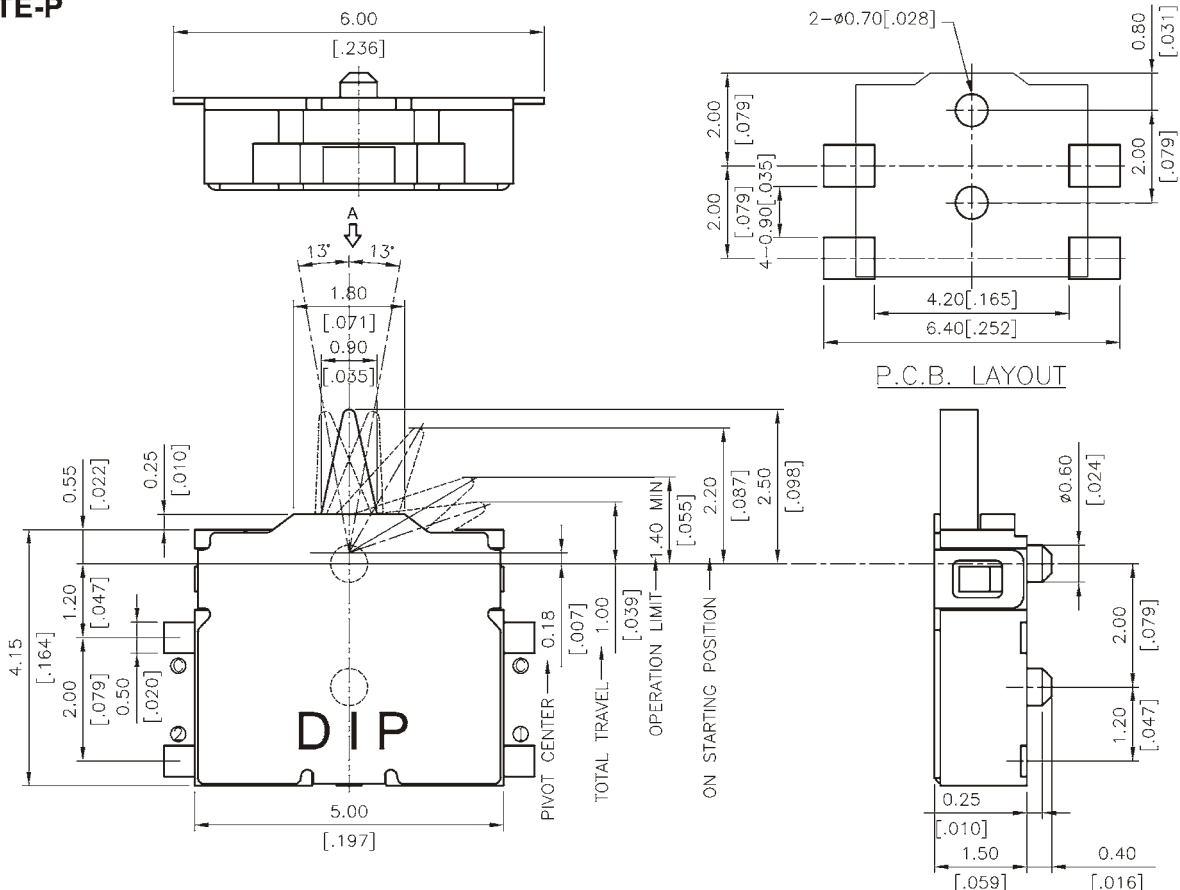
PACKAGE

Tape & Reel: 3800 pcs/reel

CIRCUIT

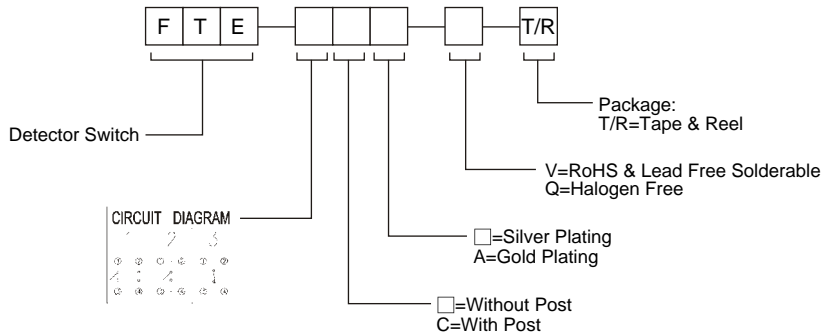


DTE-P





HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force: 105gf max.
Stroke: 2.0mm

ENVIRONMENTAL

Operation Temperature Range : -10°C to +60°C
Storage Temperature Range : -20°C to +70°C

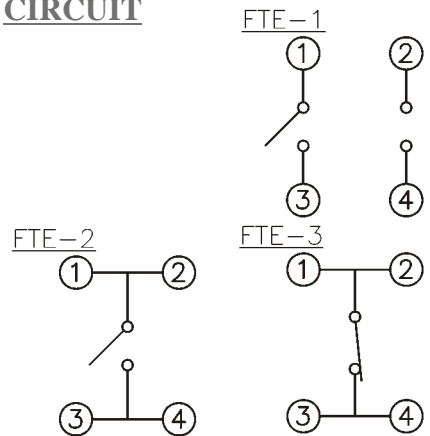
ELECTRICAL

Electrical Life: 100,000 cycles.
Rating: 1mA, 5VDC

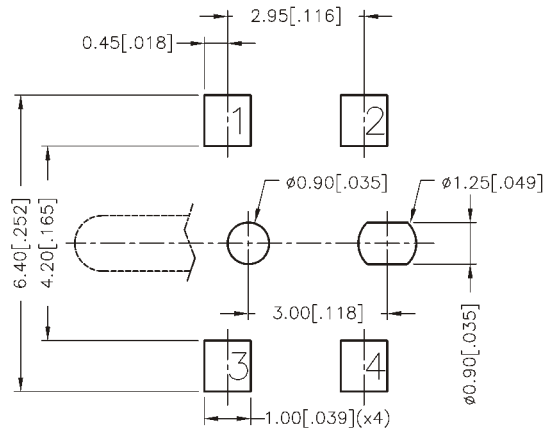
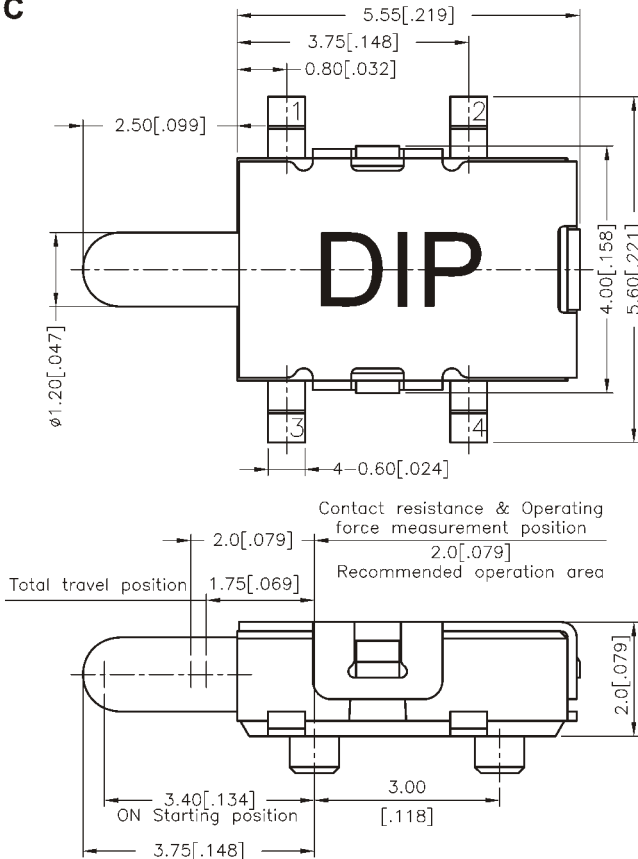
PACKAGE

Tape & Reel : 3000 pcs/reel

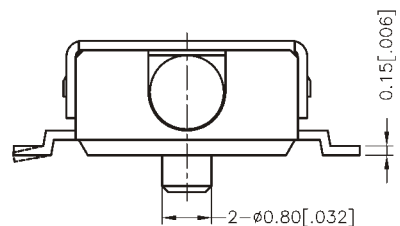
CIRCUIT



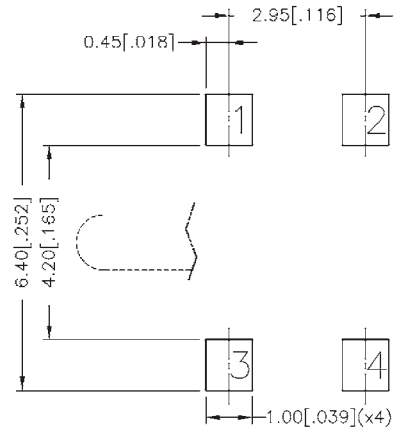
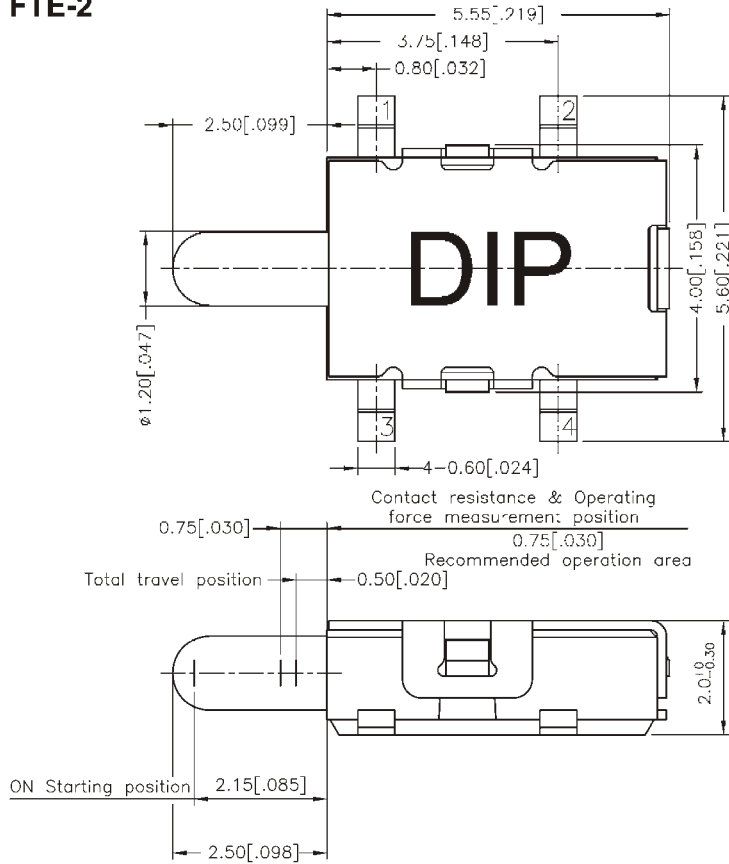
FTE-1C



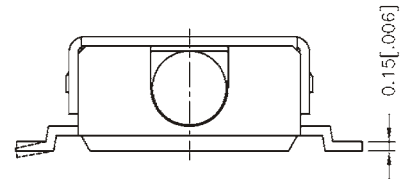
P.C.B. LAYOUT



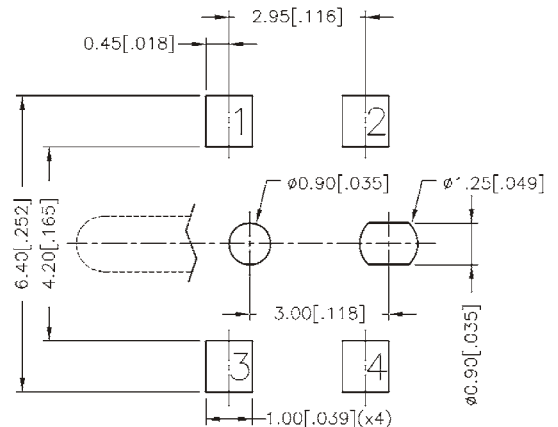
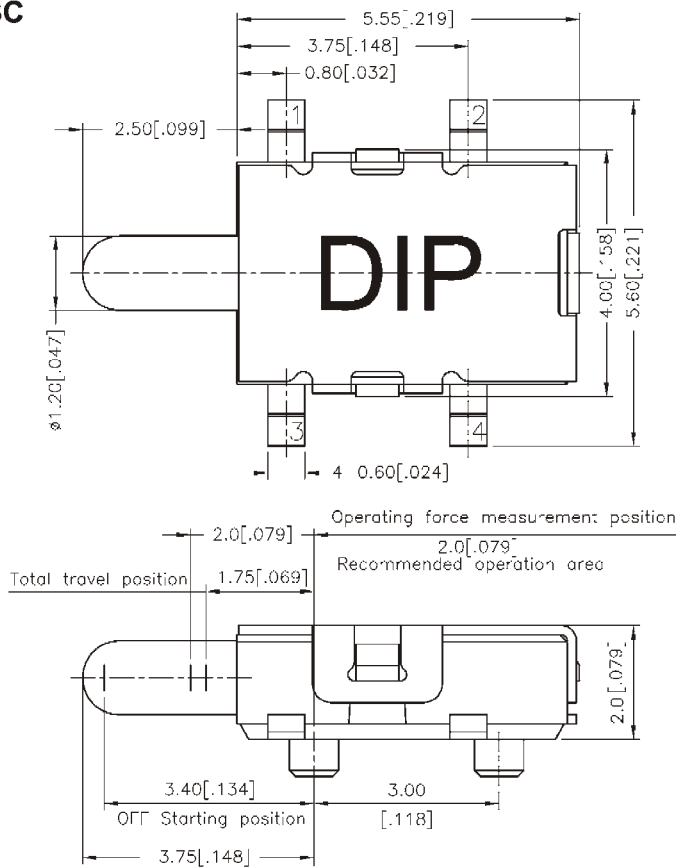
FTE-2



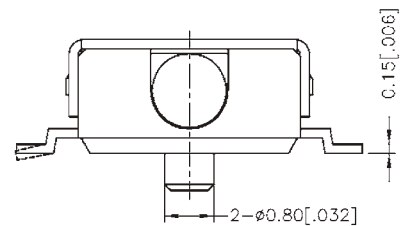
P.C.B. LAYOUT



FTE-3C



P.C.B. LAYOUT

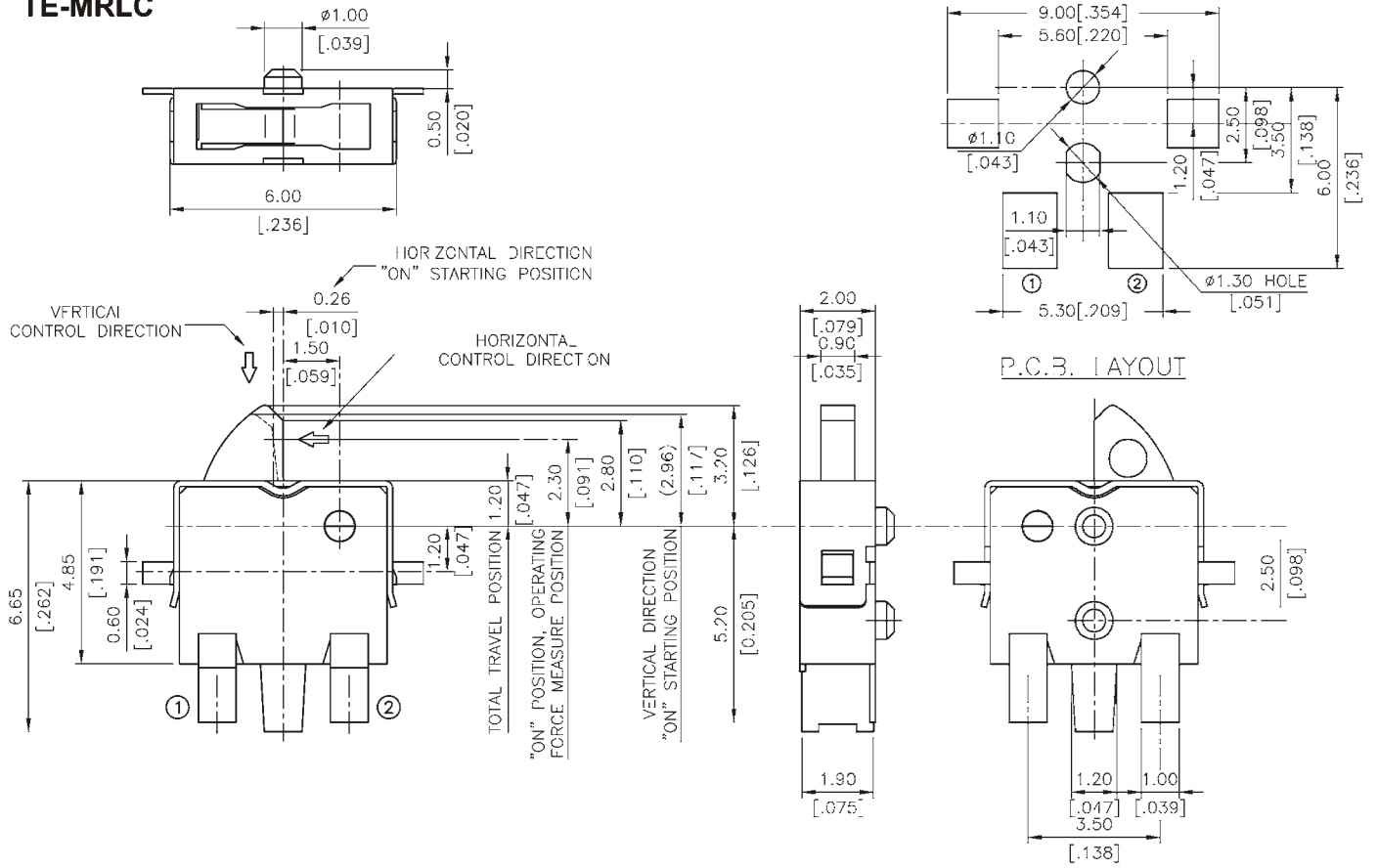


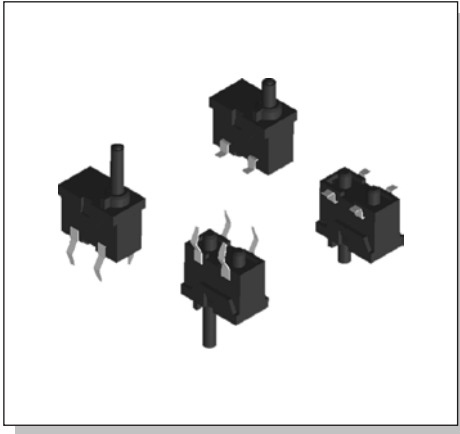
TE-MR SERIES

Detector Horizontal Type

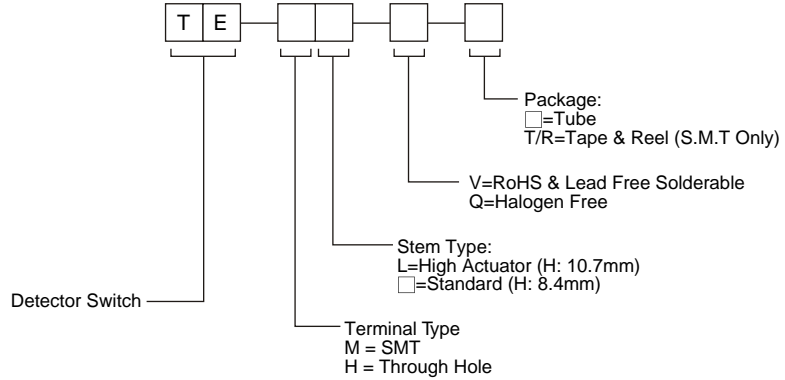


TE-MRLC





HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force: 30gf max.
 Stroke: 2mm

ENVIRONMENTAL

Operation Temperature Range : -20°C to +70°C
 Storage Temperature Range : -30°C to +80°C

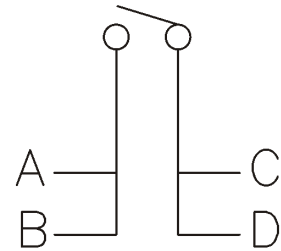
ELECTRICAL

Electrical Life: 50,000 cycles.
 Rating: 5mA, 5VDC.

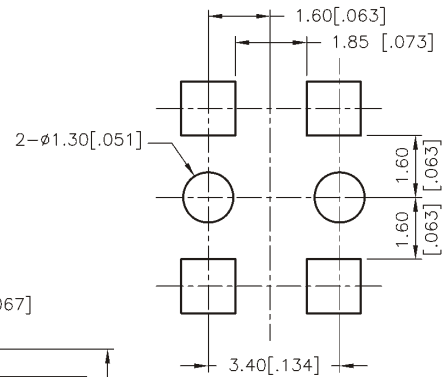
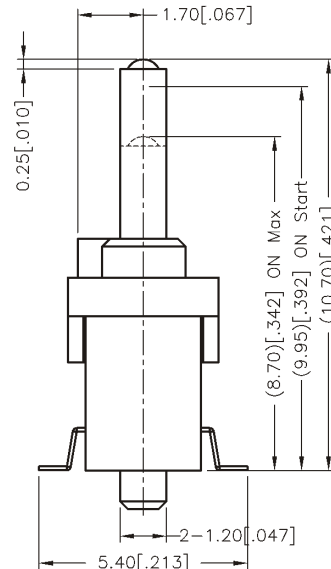
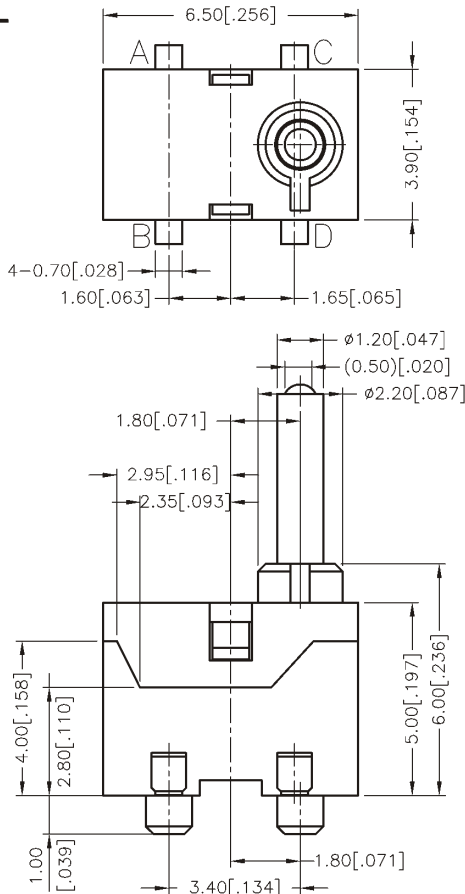
PACKAGE

Tube: 72 pcs/tube
 TE-M: 500 pcs/reel
 TE-ML: 400 pcs/reel

CIRCUIT

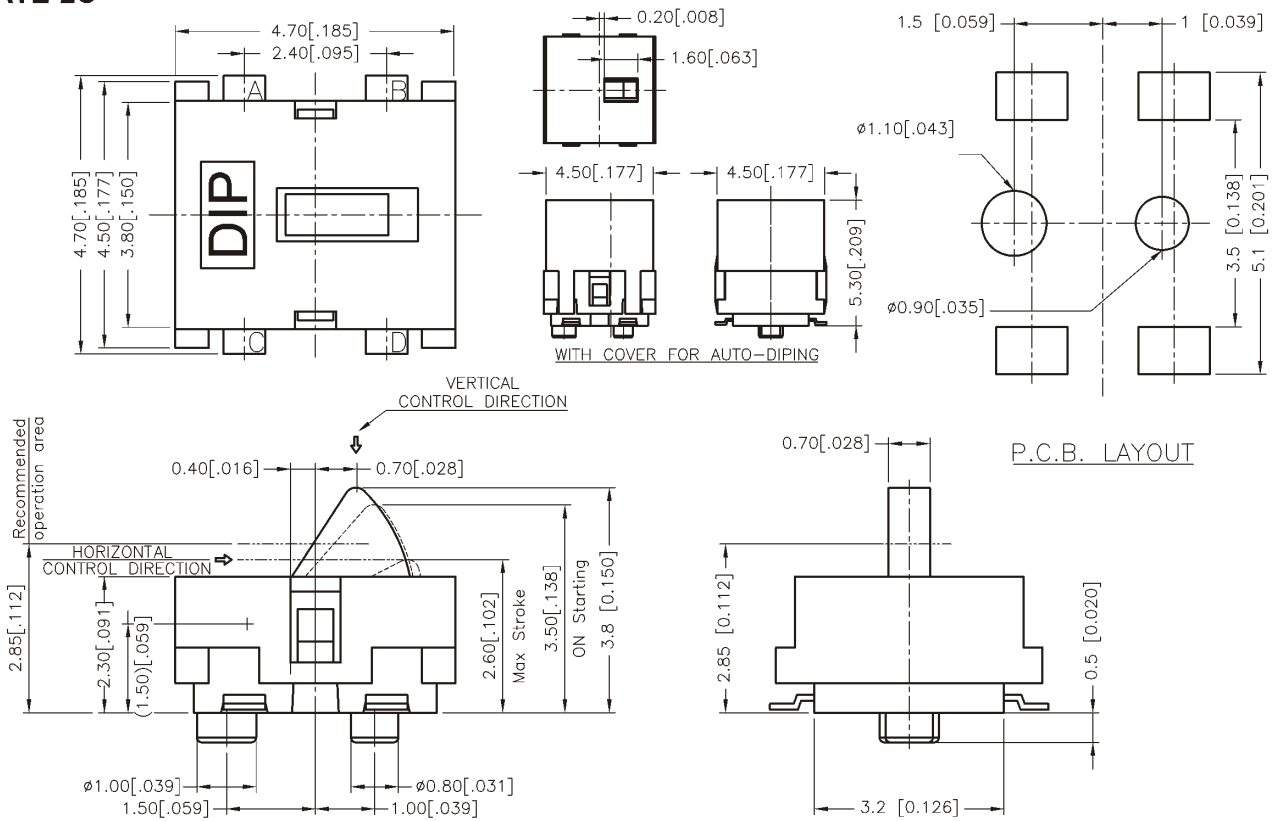


TE-ML

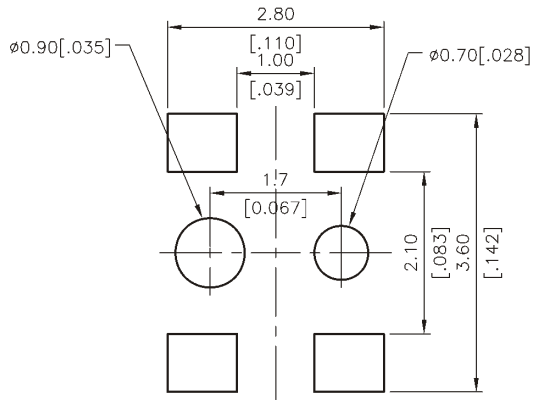
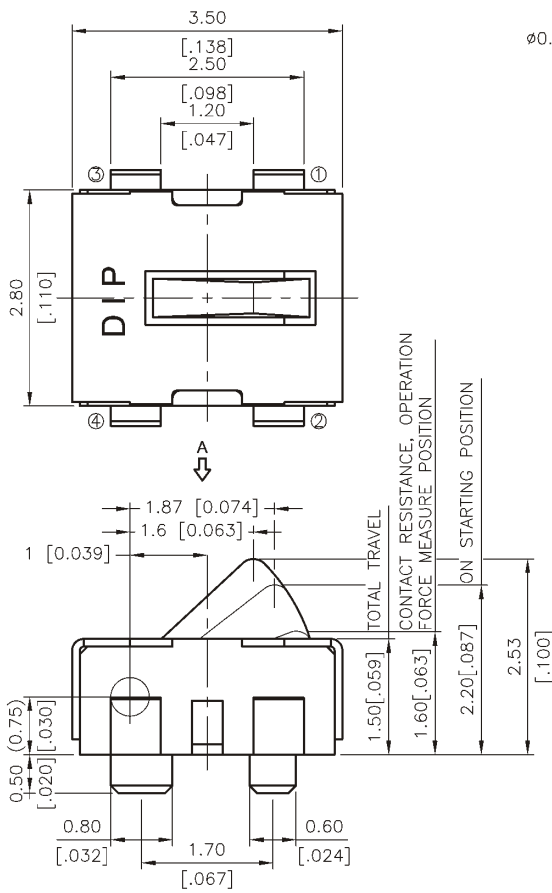


P.C.B. LAYOUT

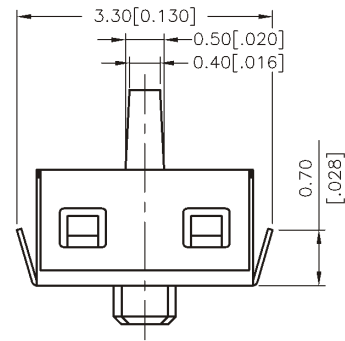
ATE-2C

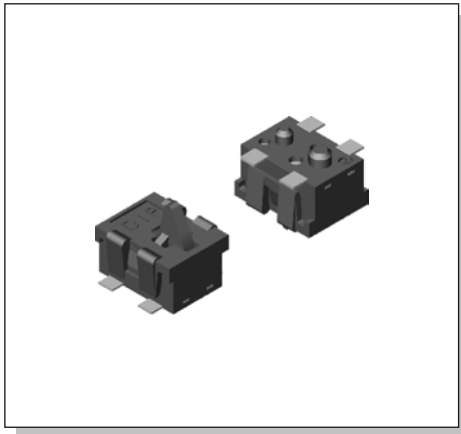


BTE-P

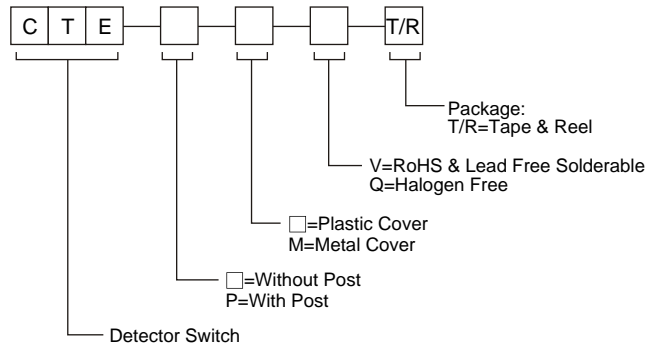


P.C.B. LAYOUT





HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force: 35gf max.
Stroke: 1.05 mm

ENVIRONMENTAL

Operation Temperature Range : -15°C to +70°C
Storage Temperature Range : -40°C to +85°C

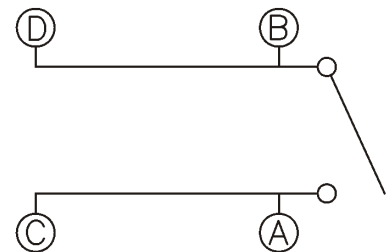
ELECTRICAL

Electrical Life: 100,000 cycles.
Rating: 0.1mA~100mA, 20mV~5V DC

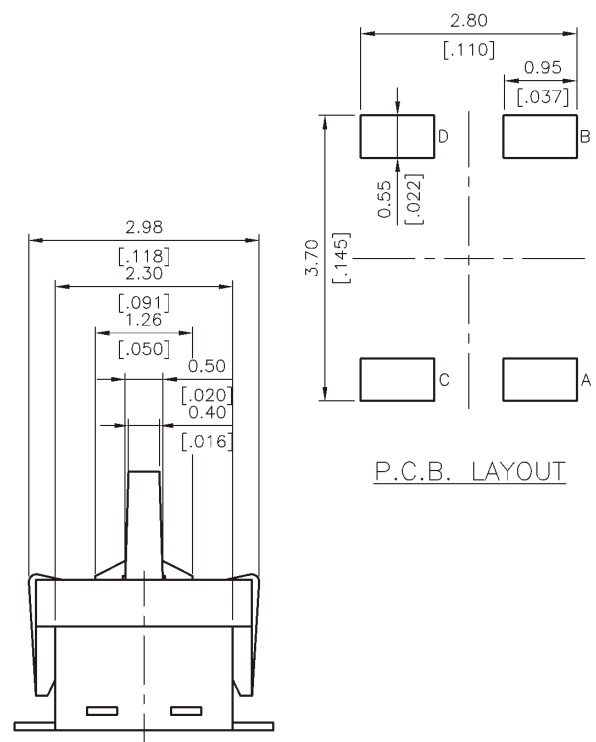
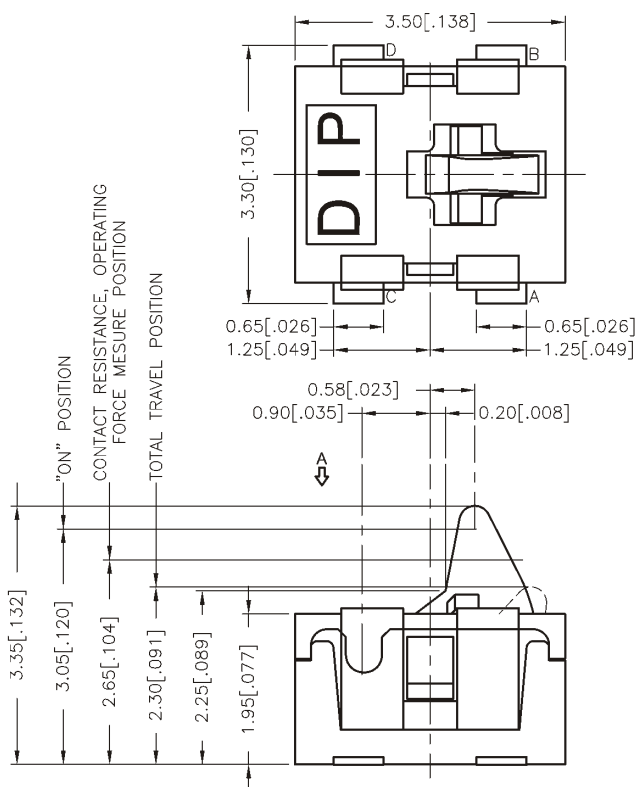
PACKAGE

Tape & Reel : 1800 pcs/reel

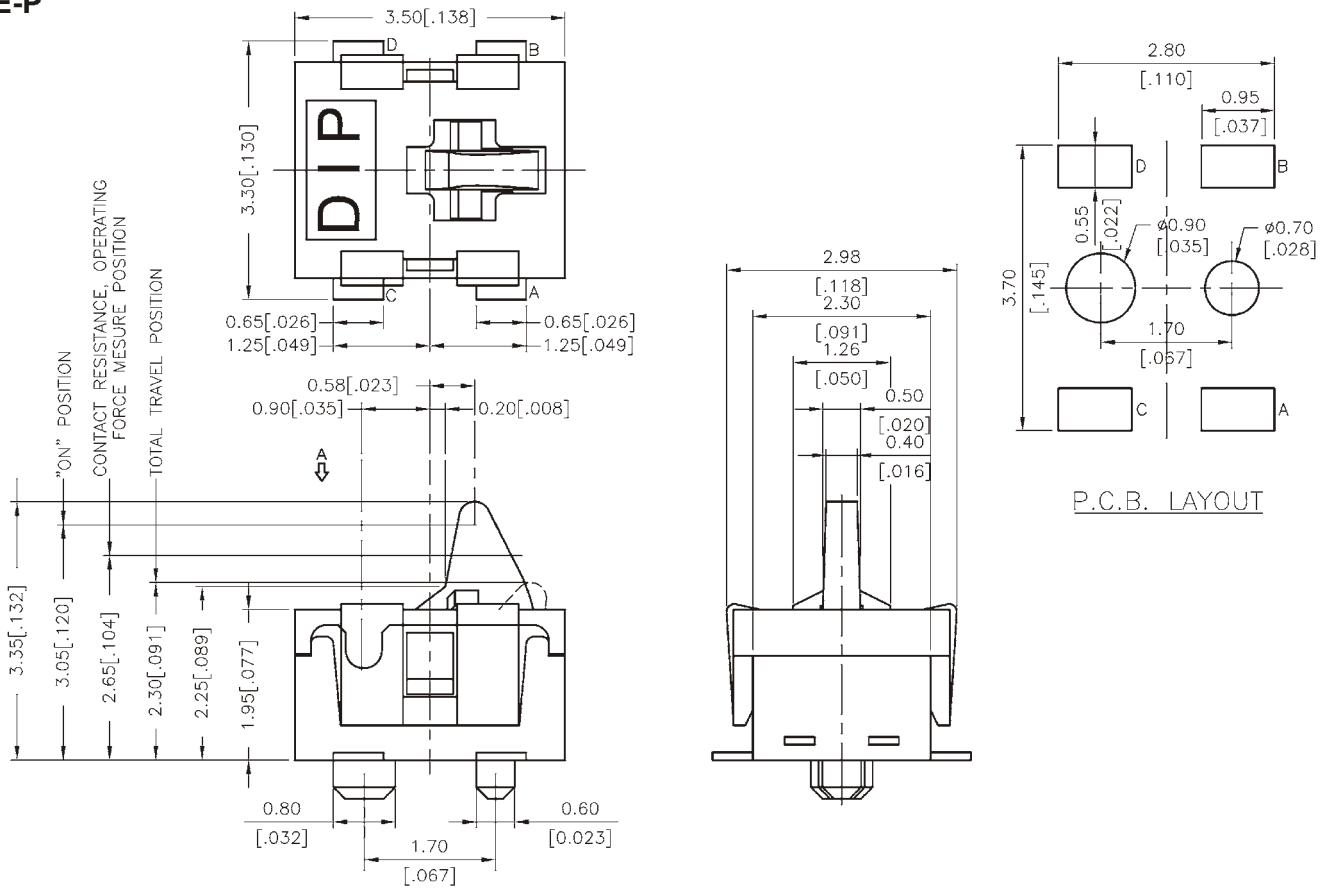
CIRCUIT



CTE

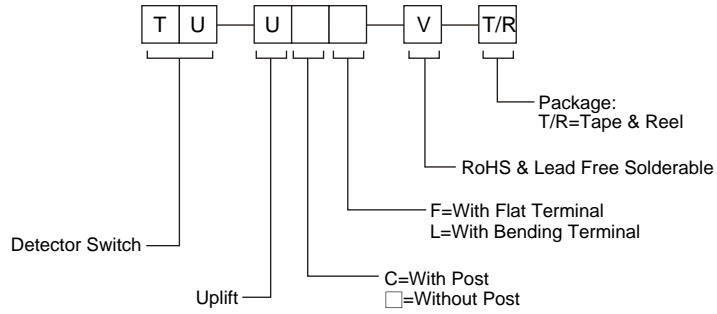


CTE-P





HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force: 40gf max.
Stroke: 60°

ENVIRONMENTAL

Operation Temperature Range : -10°C to +60°C
Storage Temperature Range : -20°C to +70°C

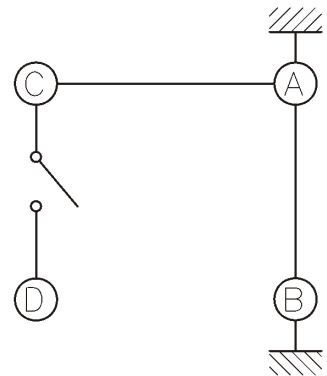
ELECTRICAL

Electrical Life: 50,000 cycles.
Rating: 1mA, 5VDC

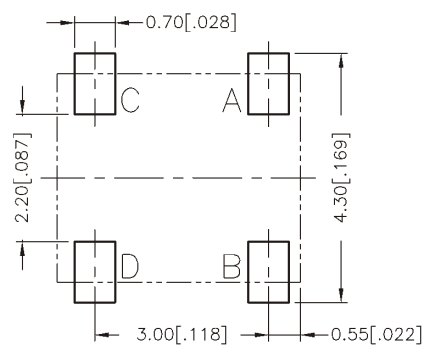
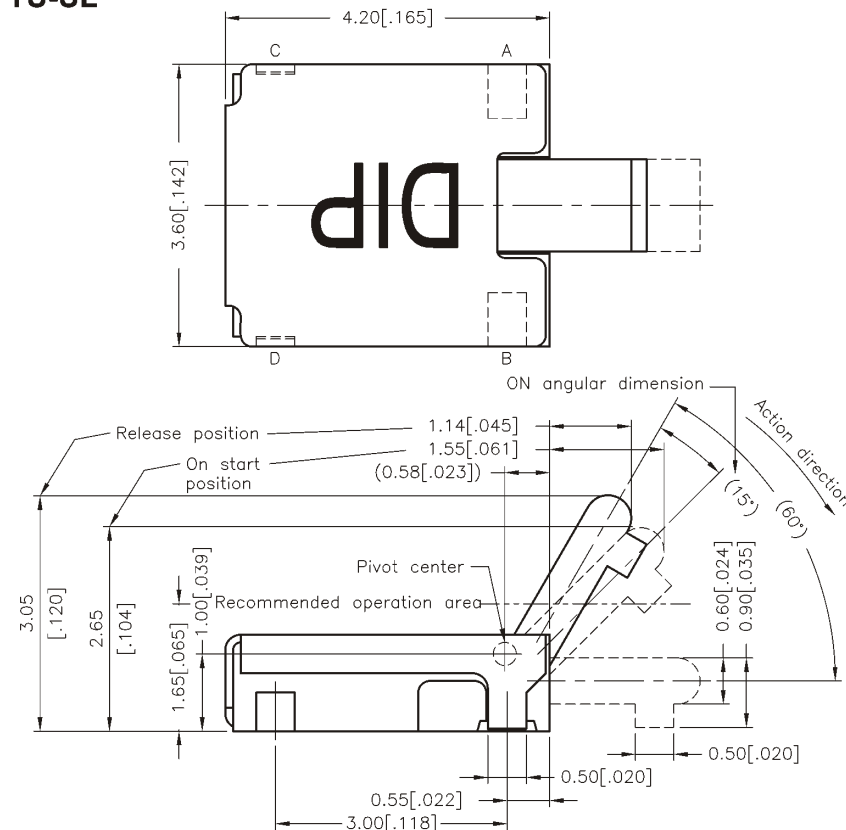
PACKAGE

Tape & Reel : 2300 pcs/reel

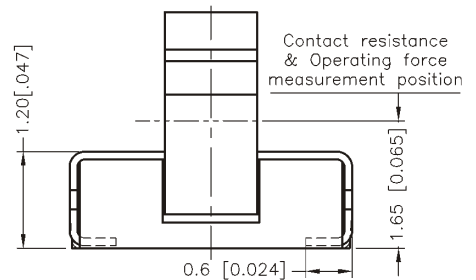
CIRCUIT



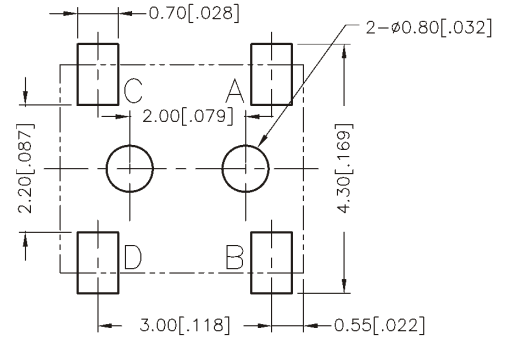
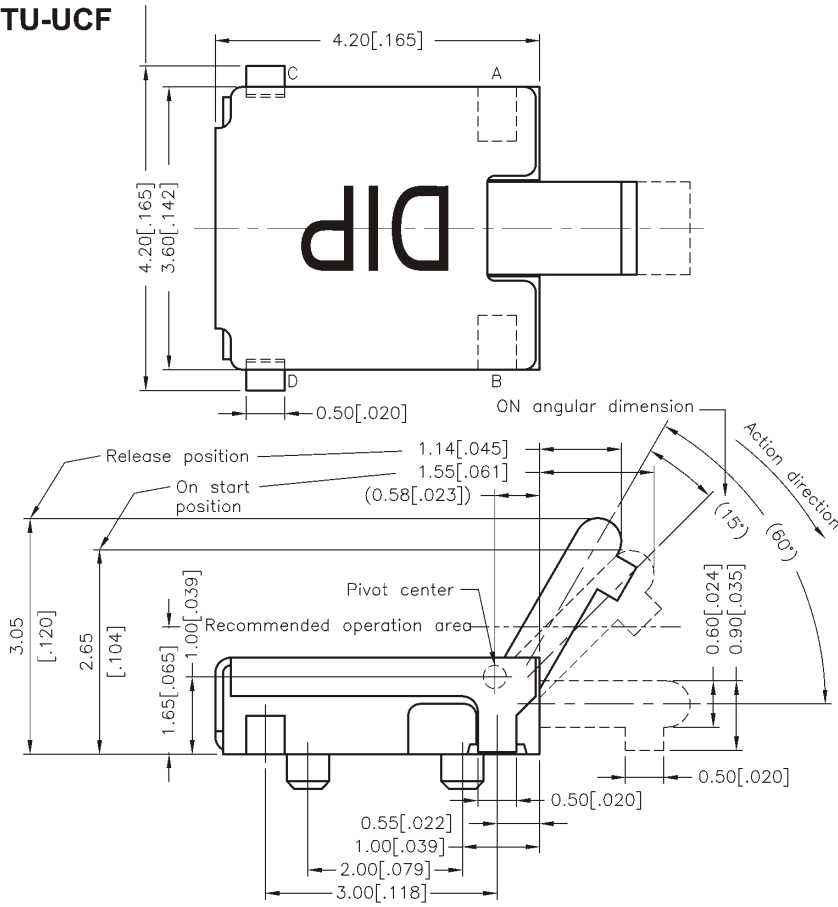
TU-UL



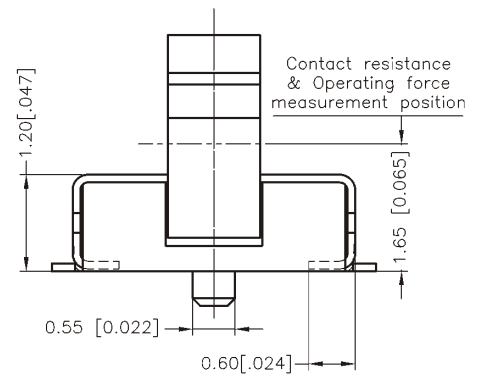
P.C.B. LAYOUT



TU-UCF



P.C.B. LAYOUT

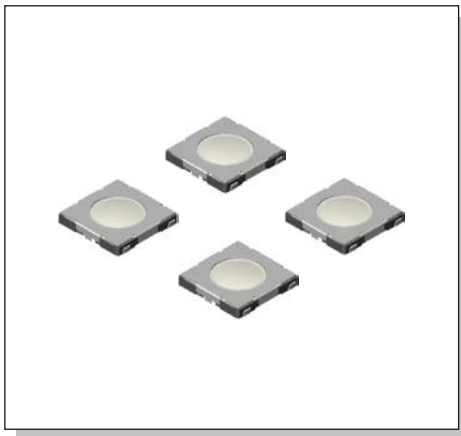


MULTI FUNCTION SWITCH

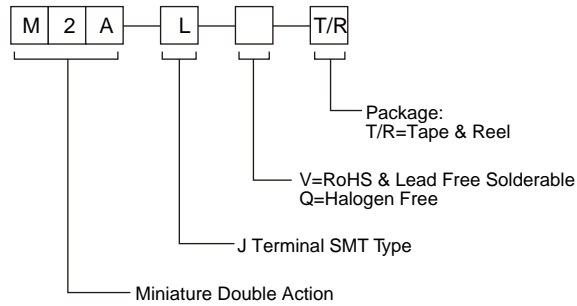
	Series	Features	Page
	M2A	Double Action / H:0.9mm	132
	M2B	Double Action / H:1.5mm	133
	M2C	Double Action / H:1.2mm	134
	M2D	Double Action / H:0.6mm	135
	M2P	Double Action & Lever	136
	MSP14	Push & Slide	137
	PL3	Push & Lever	138
	PL	Push & Lever	139
	MT4,MT5	4-direction (+ Center Push)	141
	SRM	8-way Direction	143
	TT5	5-direction Operation	144
	ZRE	Rotary Encoder (12 Pulse)	145

M2A SERIES

Miniature Double Action Type



HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force: 1st 80±40gf
2nd 250±60gf

Stroke: 1st 0.25±0.1mm
2nd 0.40±0.15mm

ENVIRONMENTAL

Operation Temperature Range : -25°C to +70°C
Storage Temperature Range : -30°C to +80°C

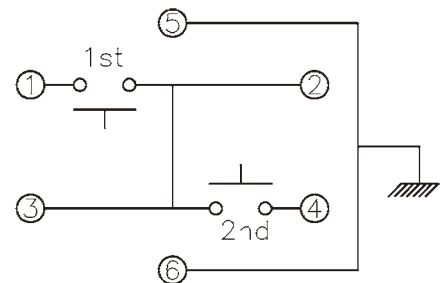
ELECTRICAL

Electrical Life: 30,000 cycles.
Rating: 50mA, 12VDC

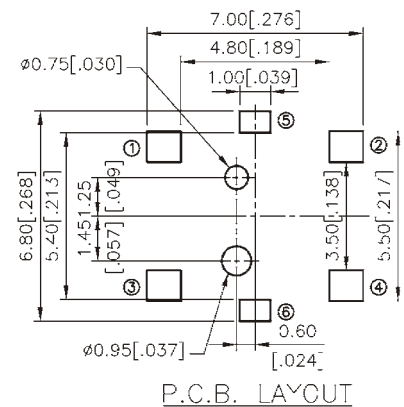
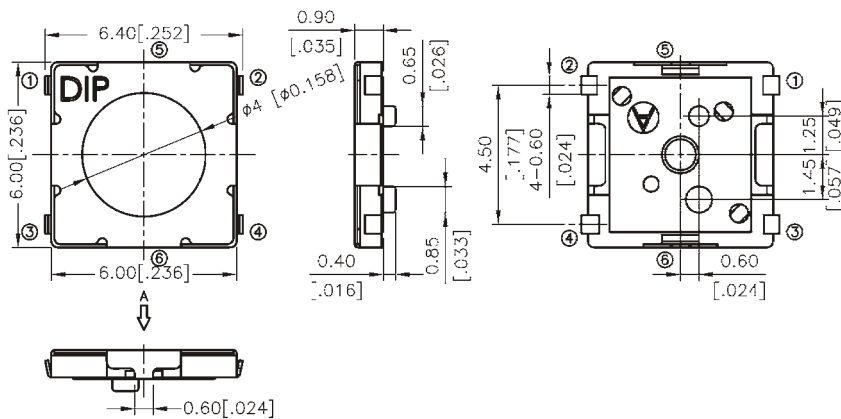
PACKAGE

Tape & Reel: 4000 pcs/reel

CIRCUIT

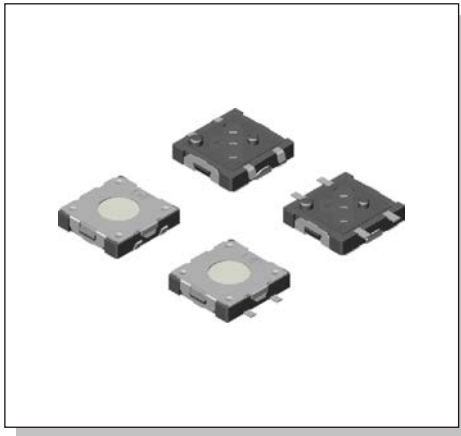


M2A

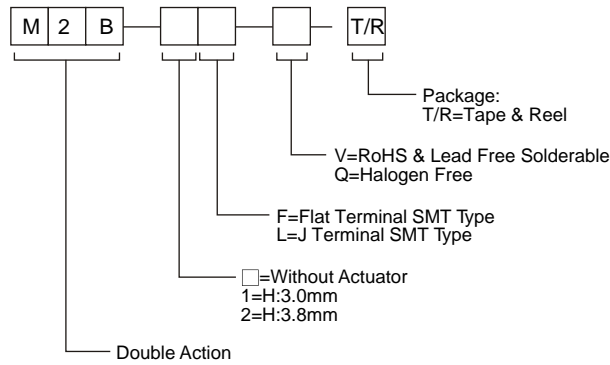


M2B SERIES

Double Action Type



HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force: 1st 100 ± 50gf
2nd 260+70 / - 50gf
Stroke: 1st 0.50+0.10 / - 0.20mm
2nd 0.70+0.10 / - 0.30mm

ENVIRONMENTAL

Operation Temperature Range : -25°C to +70°C
Storage Temperature Range : -30°C to +80°C

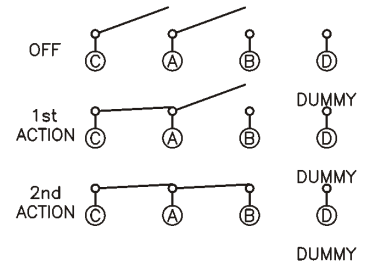
ELECTRICAL

Electrical Life: 30,000 cycles.
Rating: 50mA, 12VDC

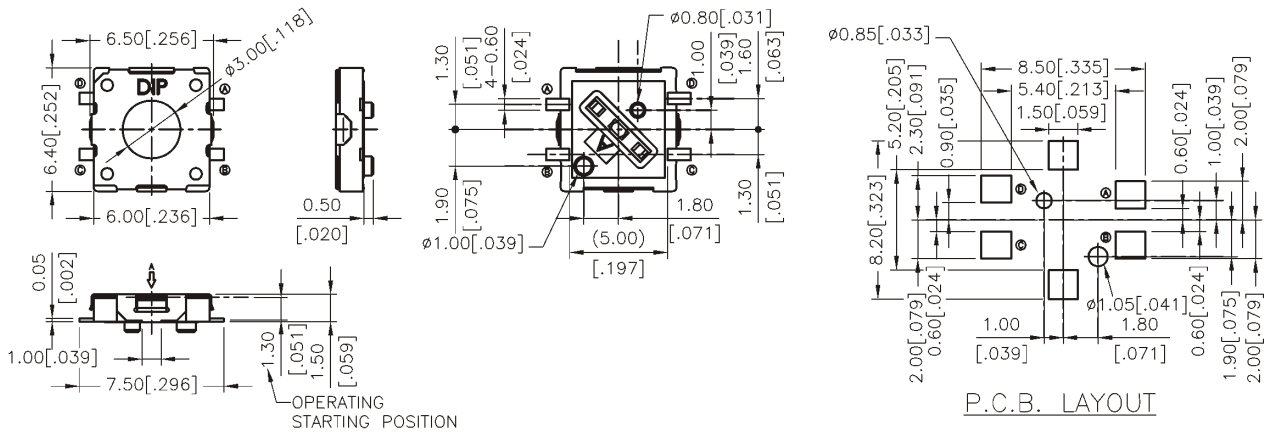
PACKAGE

M2B-F(L)-T/R: 3000 pcs/reel
M2B-[]F(L)-T/R: 2000 pcs/reel

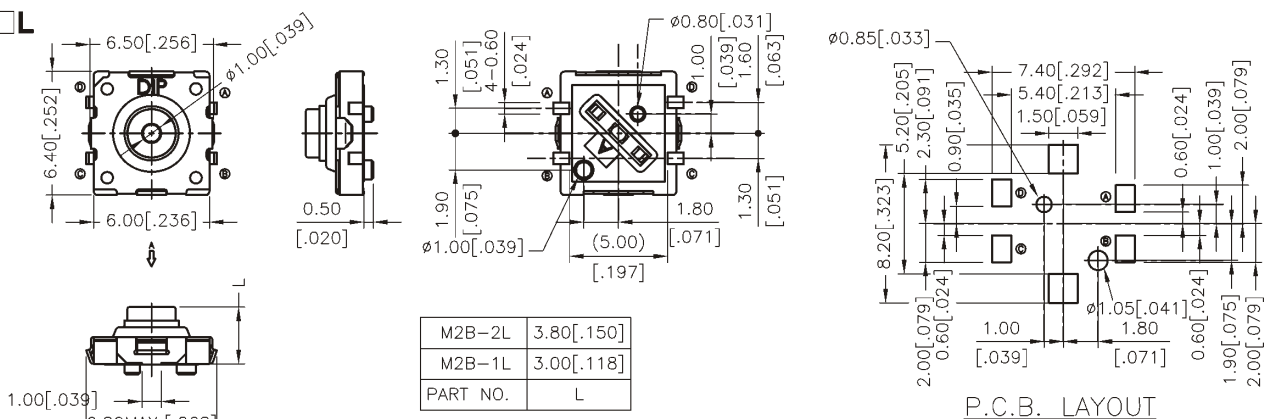
CIRCUIT



M2B-F

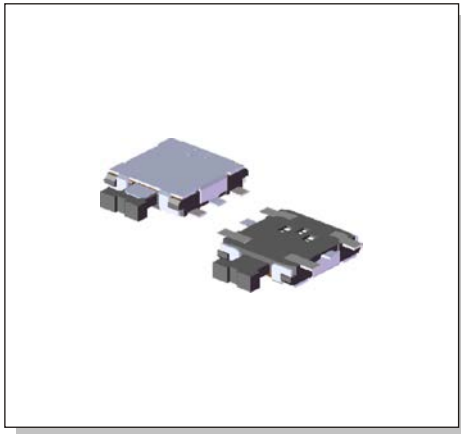


M2B-[]L

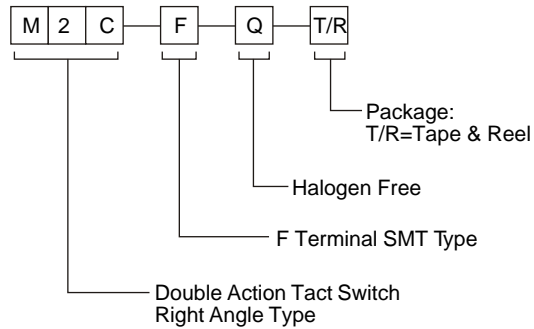


M2C SERIES

Double Action Right Angle Type



HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force: 1st 150+100 / -50gf
2nd 260±80gf

Stroke: 1st 0.45±0.15mm
2nd 0.90±0.15mm

ENVIRONMENTAL

Operation Temperature Range : -25°C to +70°C
Storage Temperature Range : -30°C to +80°C

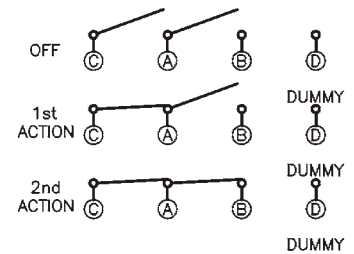
ELECTRICAL

Electrical Life: 100,000 cycles.
Rating: 50mA, 12VDC

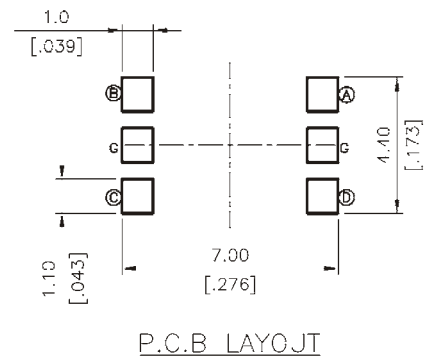
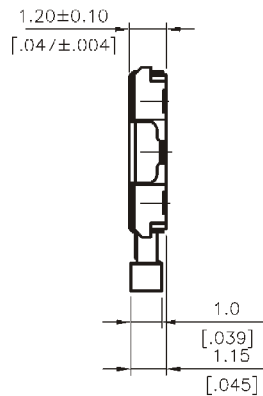
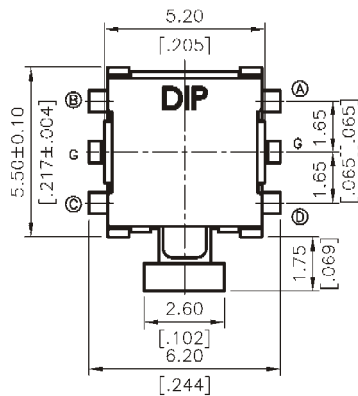
PACKAGE

Tape & Reel: 3000 pcs/reel

CIRCUIT



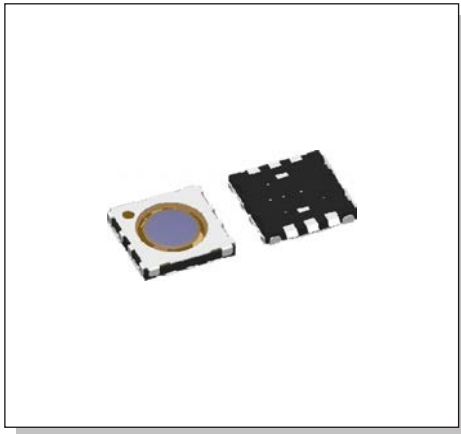
M2C



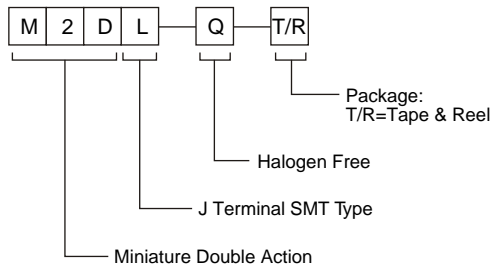
MULTI FUNCTION SWITCH

M2D SERIES

Miniature Double Action J Terminal SMT (4.1x4.3mm)



HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force: 1st 90 ± 40 gf
2nd 190 ± 60 gf
Stroke: 1st 0.15 ± 0.10 mm
2nd 0.30 ± 0.15 mm

ENVIRONMENTAL

Operation Temperature Range : -20°C to $+70^{\circ}\text{C}$
Storage Temperature Range : -40°C to $+85^{\circ}\text{C}$

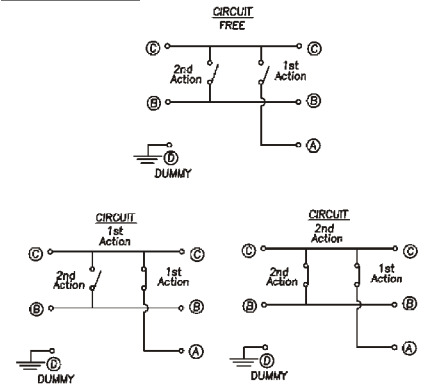
ELECTRICAL

Electrical Life: 100,000 cycles.
Rating: 50mA, 12VDC

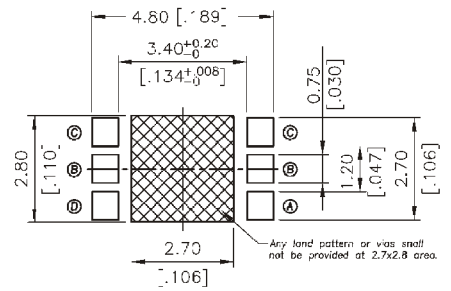
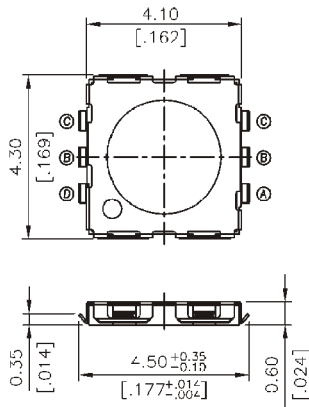
PACKAGE

Tape & Reel: 4500 pcs/reel

CIRCUIT



M2D-L-Q



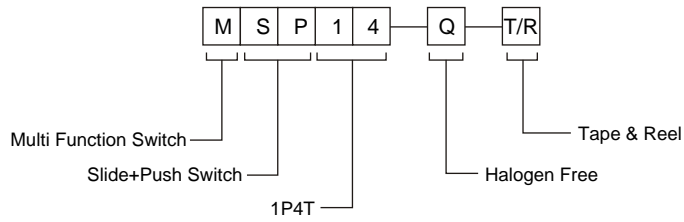
P.C.B. LAYOUT

MSP14 SERIES

Push & Slide Type



HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force:
 Slide: 140±100gf
 Push: 360±120gf

Stroke:
 Slide: 1.5±0.2mm
 Push: 0.8±0.2mm

ENVIRONMENTAL

Operation Temperature Range : -10°C to +60°C
 Storage Temperature Range : -40°C to +85°C

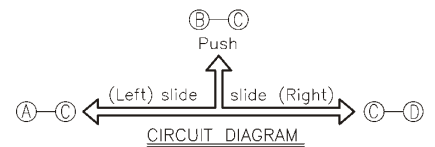
ELECTRICAL

Electrical Life: 50,000 cycles.
 Rating: 10mA 5VDC

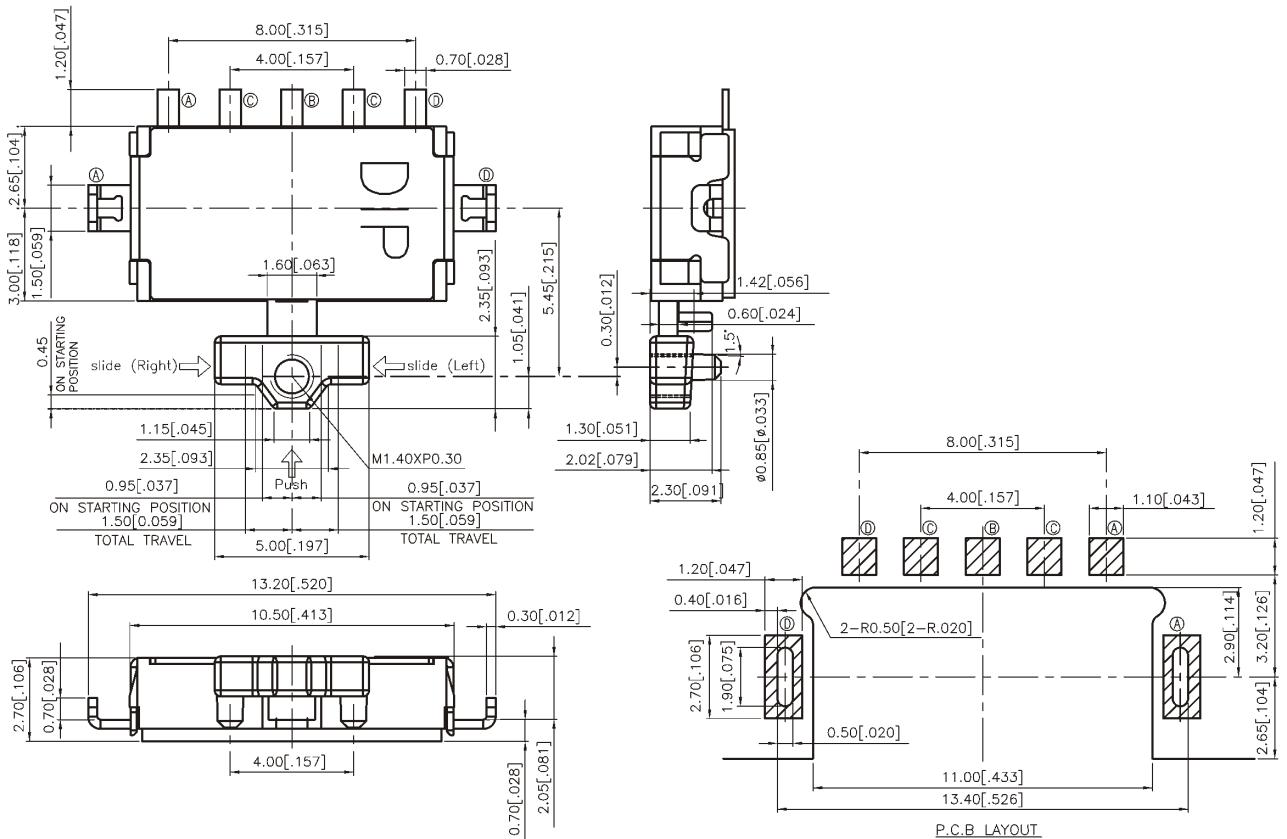
PACKAGE

1100 pcs/reel

CIRCUIT



MSP14



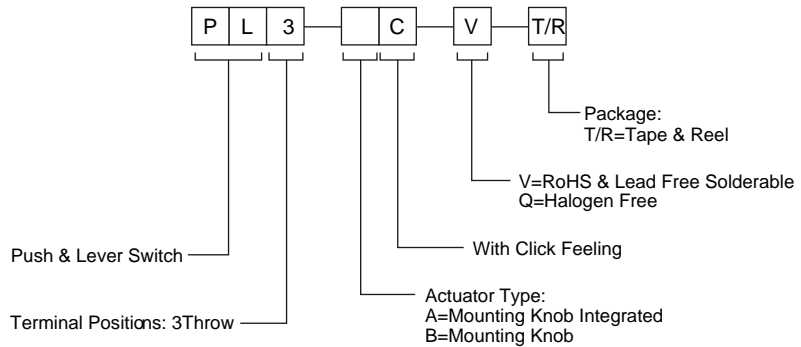
MULTI FUNCTION SWITCH

PL3 SERIES

Push & Lever Type



HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force:
 Center push 200±100gf.
 Lever (CW. CCW) 70±50gf

ENVIRONMENTAL

Operation Temperature Range : -10°C to +60°C
 Storage Temperature Range : -30°C to +80°C

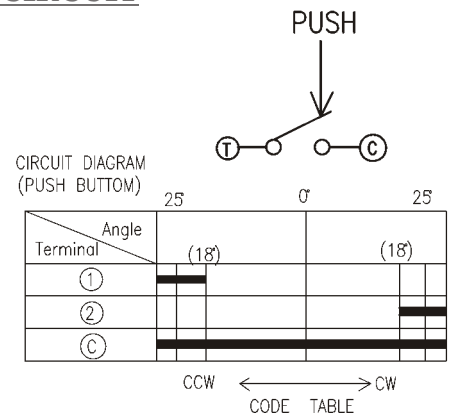
ELECTRICAL

Electrical Life: 100,000 cycles.
 Rating: 10mA, 5VDC

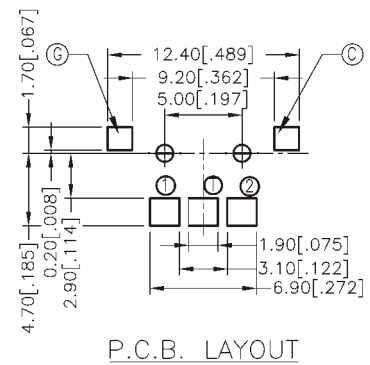
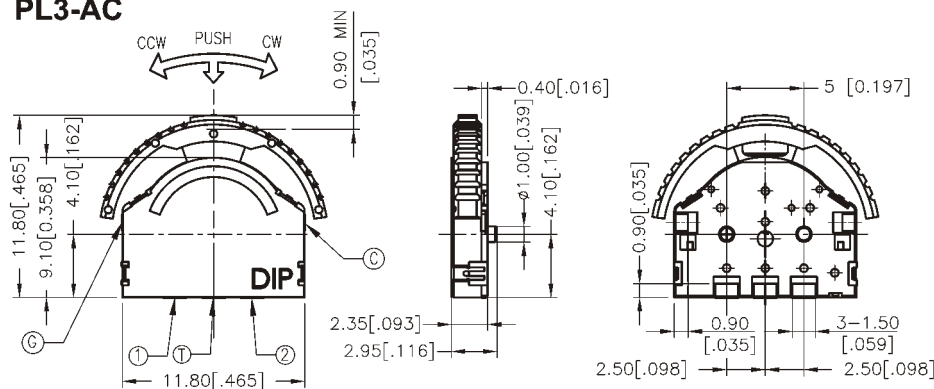
PACKAGE

Tape & Reel: 900 pcs/reel

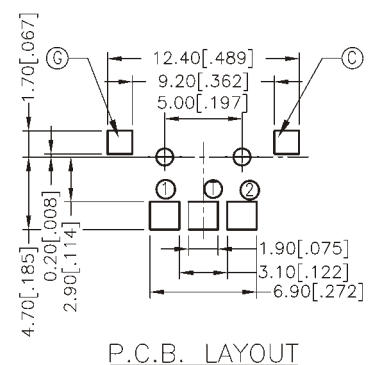
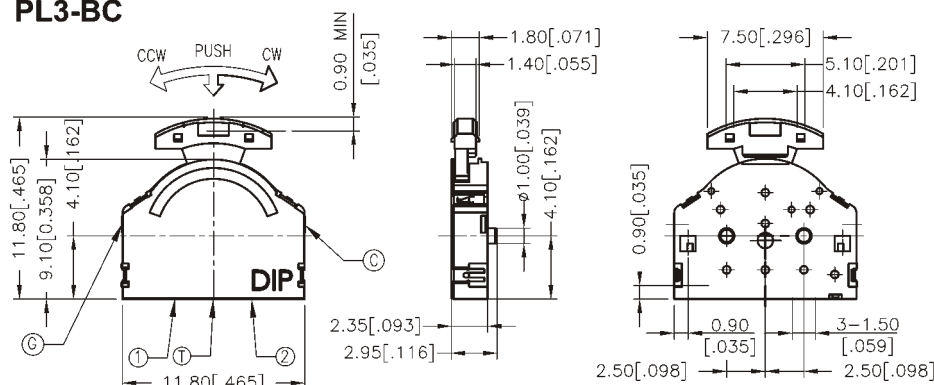
CIRCUIT



PL3-AC



PL3-BC



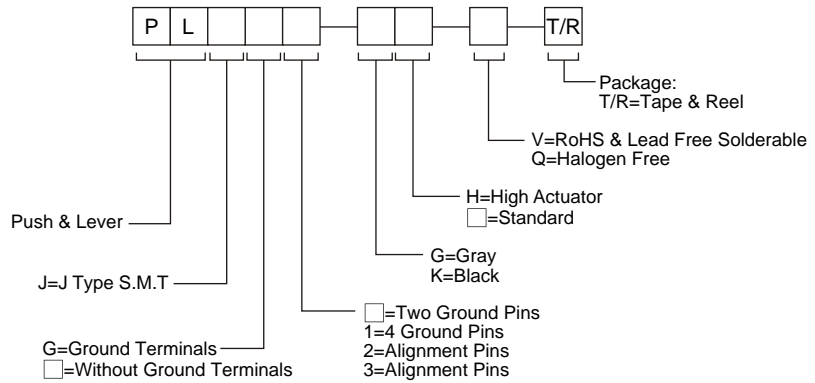
MULTI FUNCTION SWITCH

PL SERIES

Push & Lever Type



HOW TO ORDER



SPECIFICATION

MECHANICAL

- Operation Force:
 (A) Force on return actuator
 (A) 40±20gf.
 (B) Force on center push direction
 (B) 150±50gf.

ENVIRONMENTAL

- Operation Temperature Range : -10°C to +70°C
 Storage Temperature Range : -25°C to +80°C

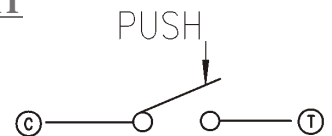
ELECTRICAL

- Electrical Life: 100,000 operation cycles
 Non-switching Rating: 100mA, 50VDC
 Switching Rating: 10mA, 5VDC

PACKAGE

- PLJ(G), PLJG1: 1000 pcs/reel
 PLJG(2)(3)(4): 800 pcs/reel

CIRCUIT

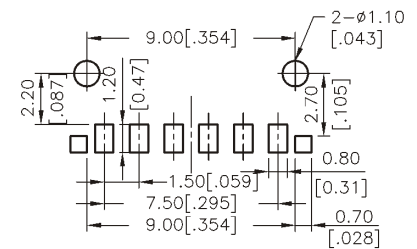
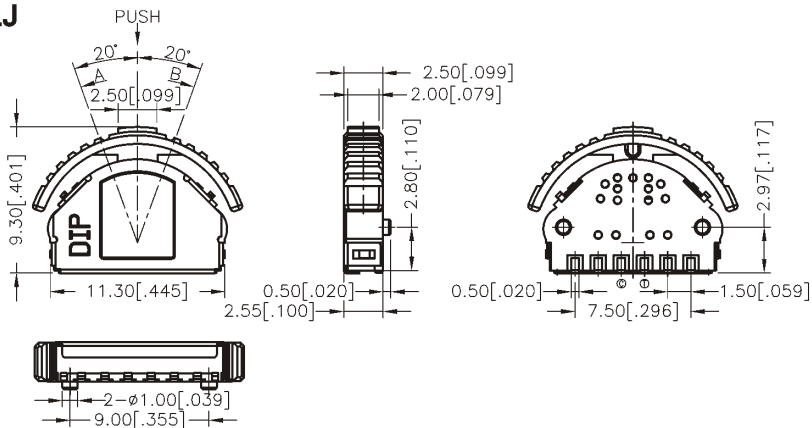


TERMINAL NO.	ANGLE		A		B	
	20°	(16°)	(8°)	(8°)	(16°)	20°
①	■					
②	■					
③						■
④					■	■
ⓐ	■	■	■	■	■	■

* E : EARTHING TERMINAL
 * ■ : ON POSITION

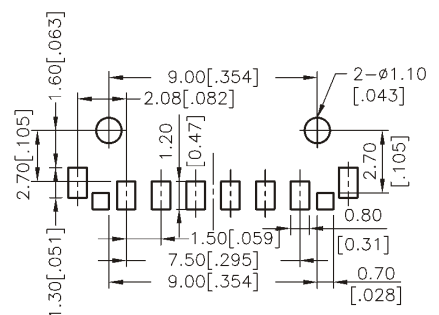
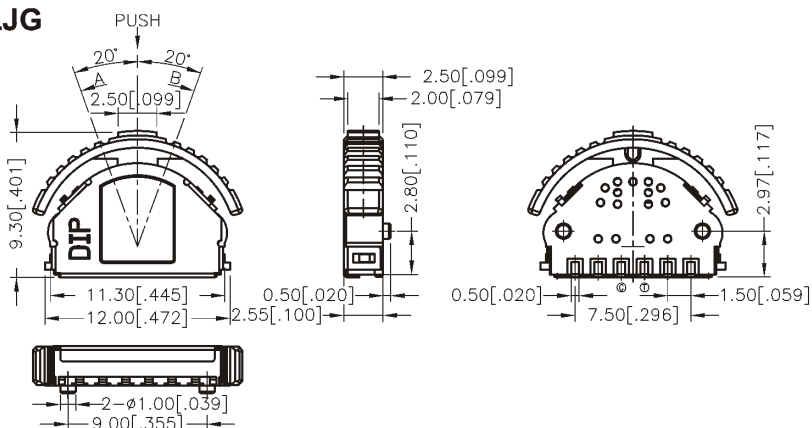
CIRCUIT DIAGRAM

PLJ



P.C.B. LAYOUT

PLJG



P.C.B. LAYOUT

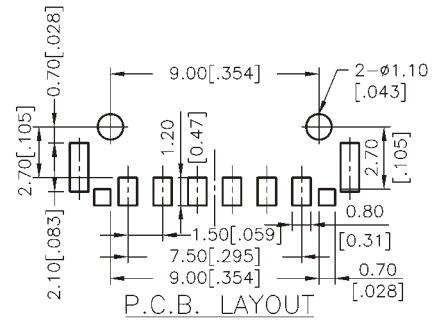
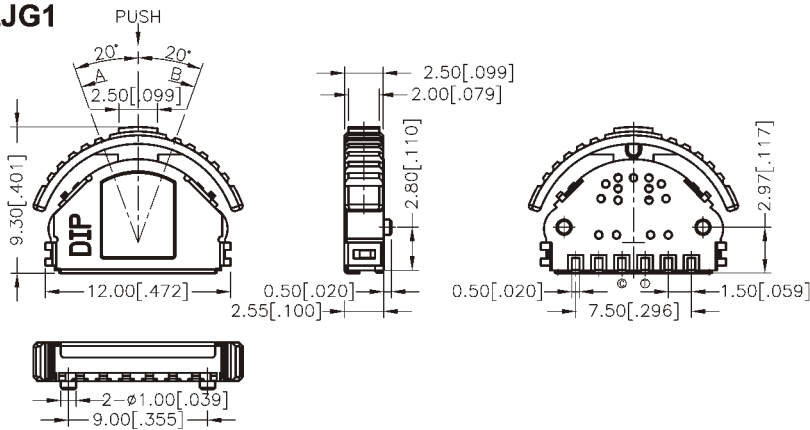
MULTI FUNCTION SWITCH

PL SERIES

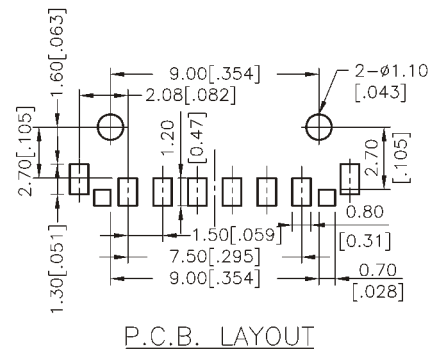
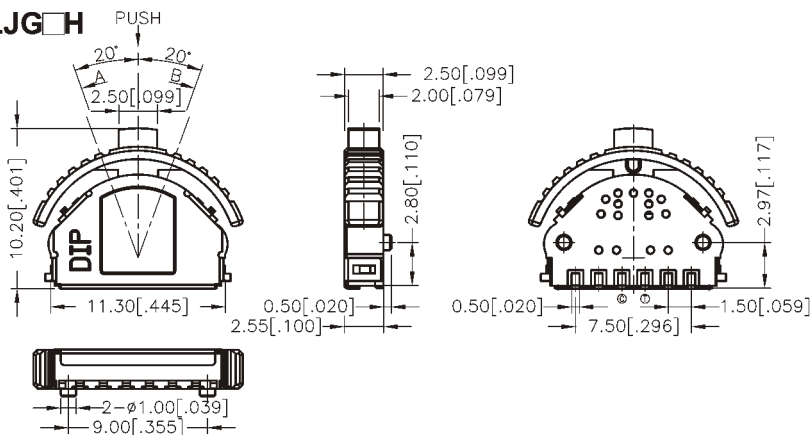
Push & Lever Type



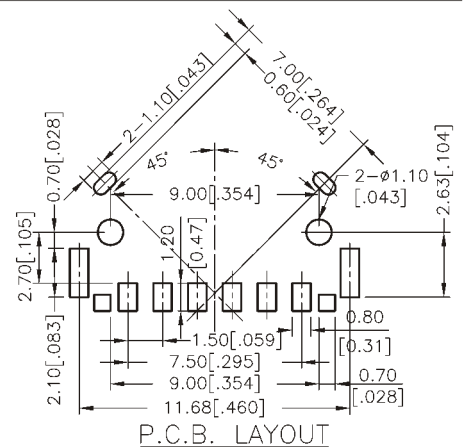
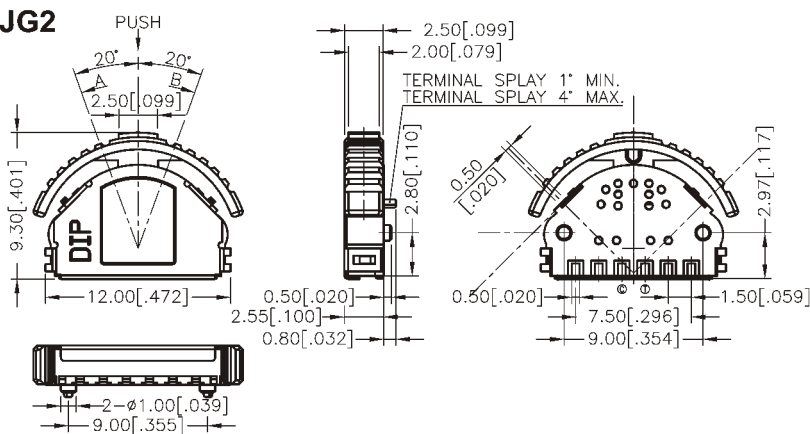
PLJG1



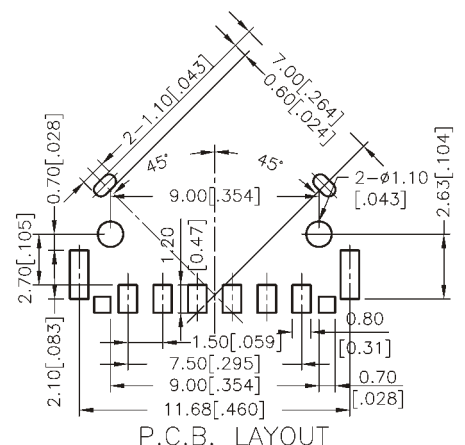
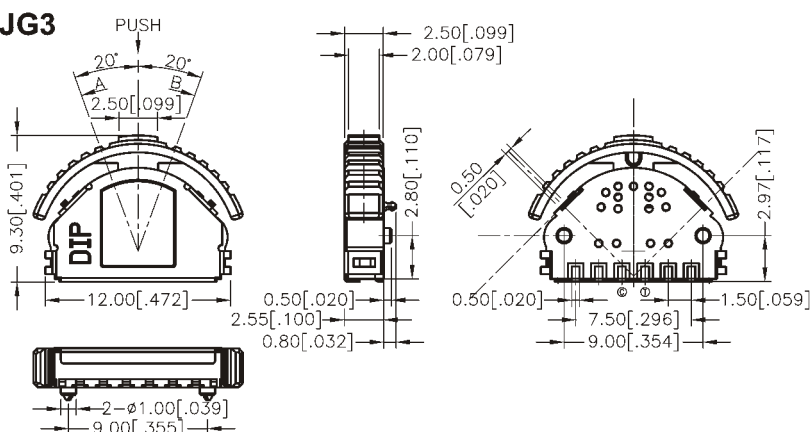
PLJG H



PLJG2



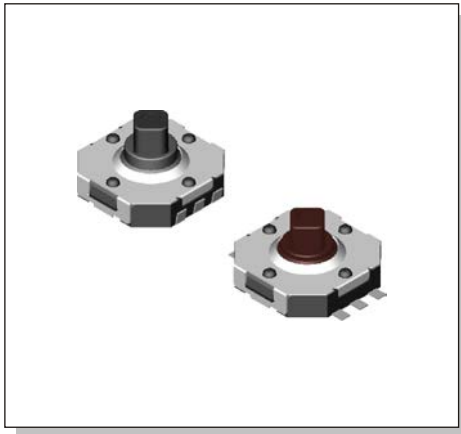
PLJG3



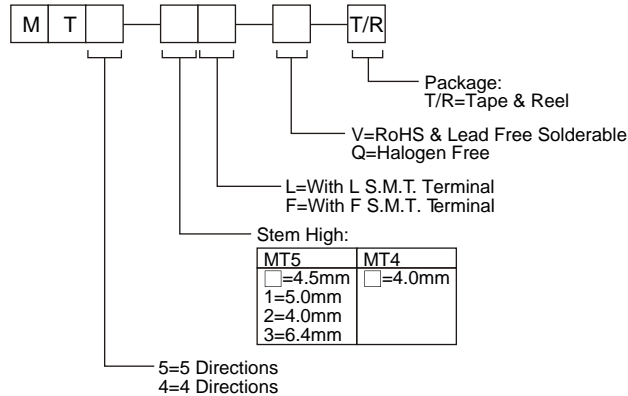
MULTI FUNCTION SWITCH

MT5, MT4 SERIES

Multi-direction Type



HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force:
4-direction: 160gf
Center push: 320gf
Stroke:
4-direction: 5°+2.5°/- 1.5°
Center push: 0.25+0.1/- 0.2 mm

ENVIRONMENTAL

Operation Temperature Range : -25°C to +70°C
Storage Temperature Range : -40°C to +85°C

ELECTRICAL

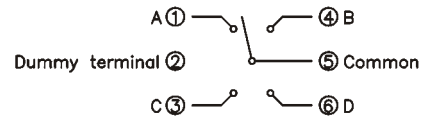
Electrical Life: 100,000 cycles.
Rating: 50mA, 12VDC

PACKAGE

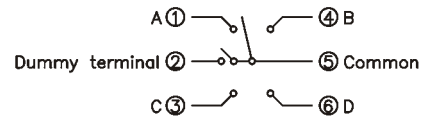
Tape & Reel : 850 pcs/reel

CIRCUIT

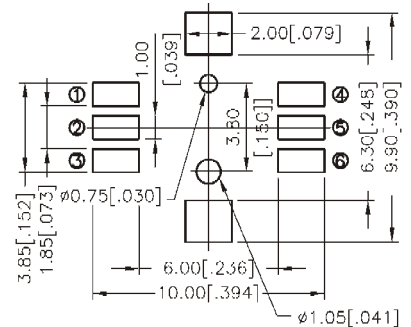
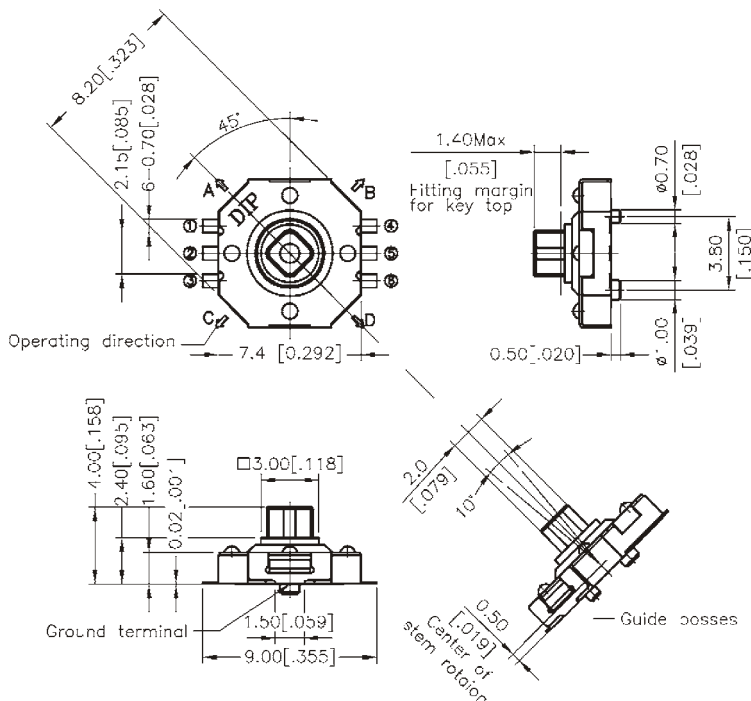
MT4



MT5



MT4-F



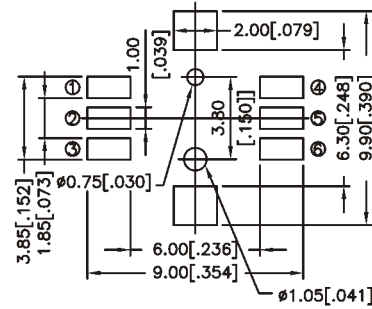
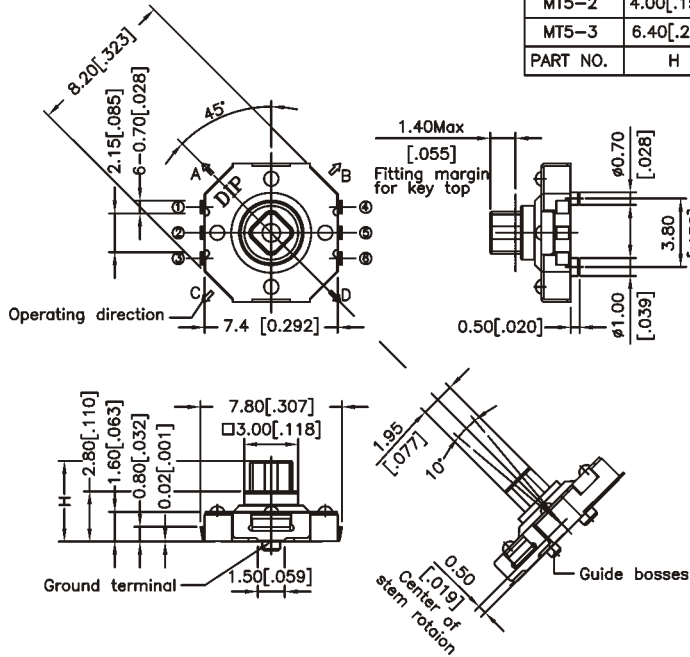
MT5, MT4 SERIES

Multi-direction Type

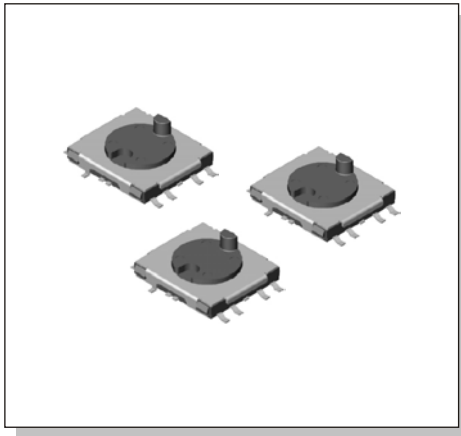


MT5-L

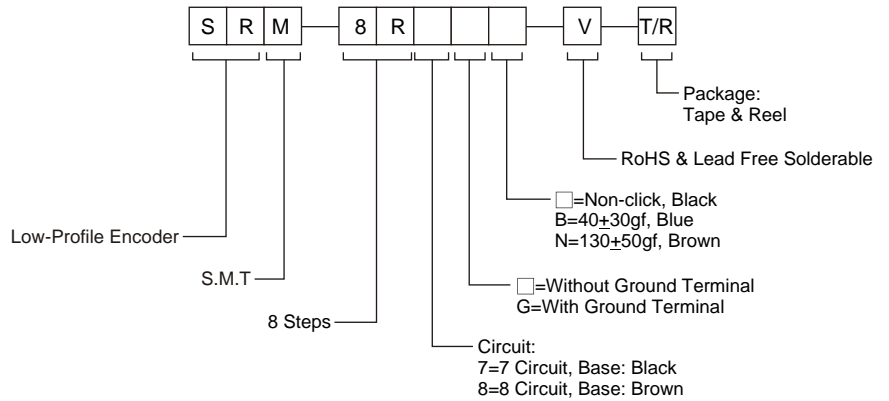
MT5	4.50[.177]
MT5-1	5.00[.196]
MT5-2	4.00[.157]
MT5-3	6.40[.252]
PART NO.	H



P.C.B. LAYOUT



HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force: N=130±50gf,
B=40±30gf

ENVIRONMENTAL

Operation Temperature Range : -20°C to +80°C
Storage Temperature Range : -40°C to +85°C

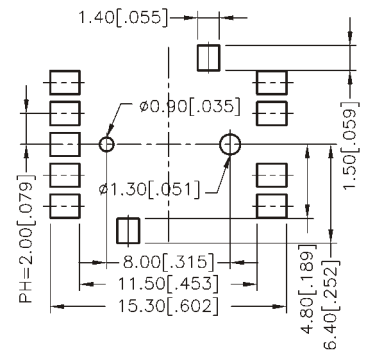
ELECTRICAL

Electrical Life: 10,000 cycles.
Rating: 10mA, 5VDC

PACKAGE

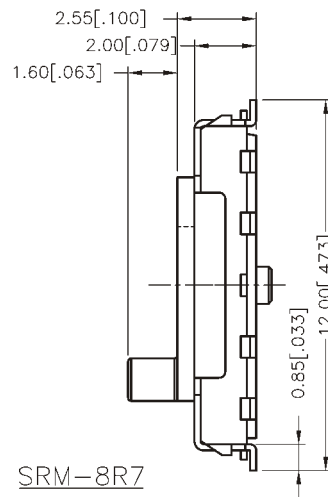
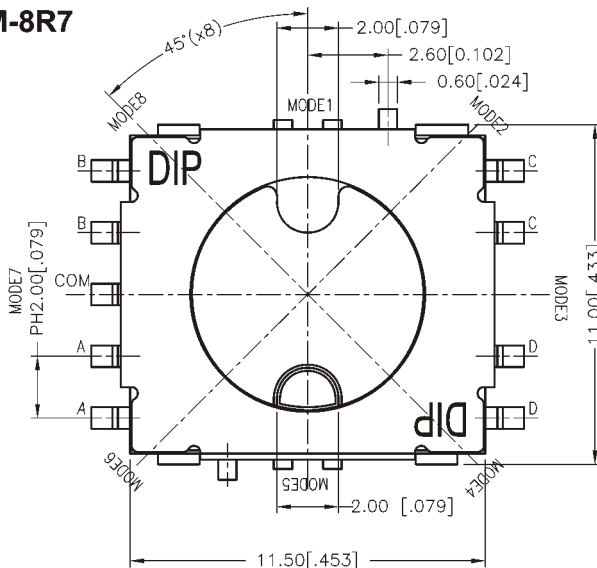
Tape & Reel: 900 pcs/reel

CIRCUIT



P.C.B. LAYOUT

SRM-8R7

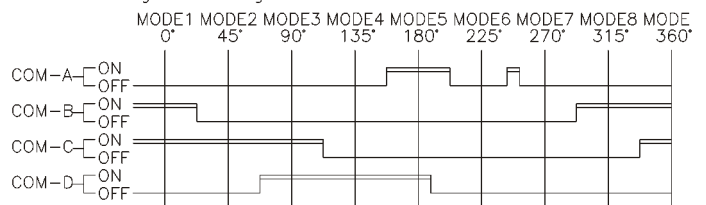


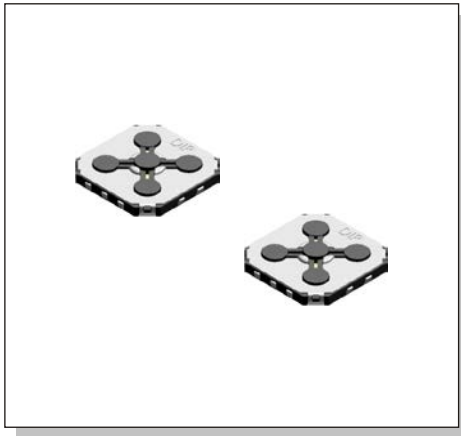
SRM-8R7

Changeover Angle

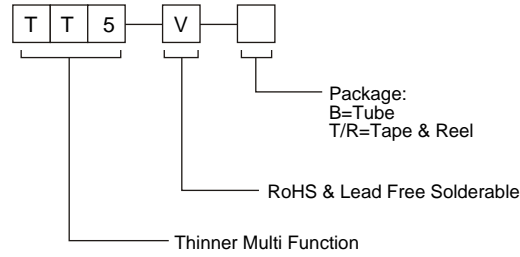
	MODE1	MODE2	MODE3	MODE4	MODE5	MODE6	MODE7	MODE8
COM-A	OFF	OFF	OFF	OFF	ON	OFF	OFF	OFF
COM-B	ON	OFF	OFF	OFF	OFF	OFF	OFF	ON
COM-C	ON	ON	ON	OFF	OFF	OFF	OFF	OFF
COM-D	OFF	OFF	ON	ON	ON	OFF	OFF	OFF

Changeover Timing





HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force:
 Side: 180gf±60gf
 Center: 320+80/-60gf
 Stroke: 0.25±0.15mm.

ENVIRONMENTAL

Operation Temperature Range : -20°C to +70°C
 Storage Temperature Range : -40°C to +85°C

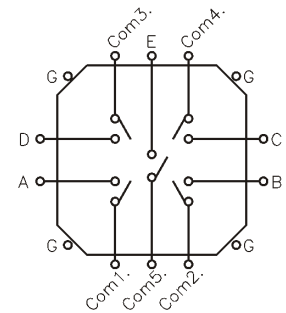
ELECTRICAL

Electrical Life: 200,000 cycles.
 Rating: 50mA, 12VDC

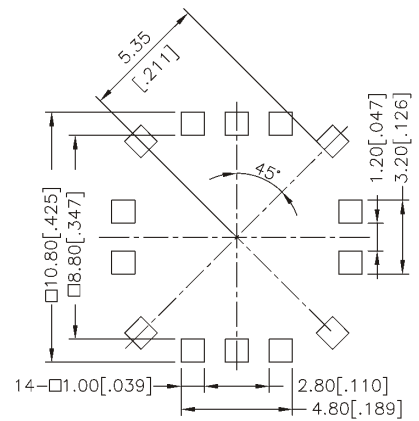
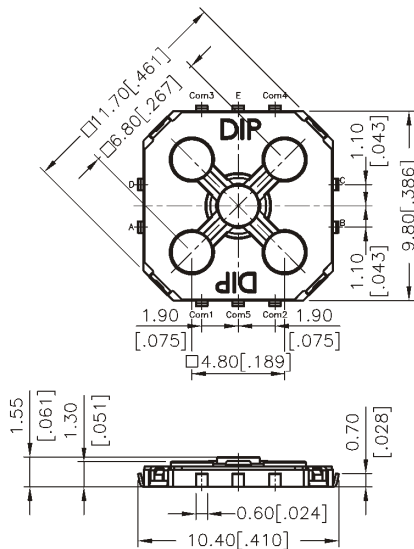
PACKAGE

Tube: 47 pcs/tube
 Tape and Reel: 2500 pcs/reel

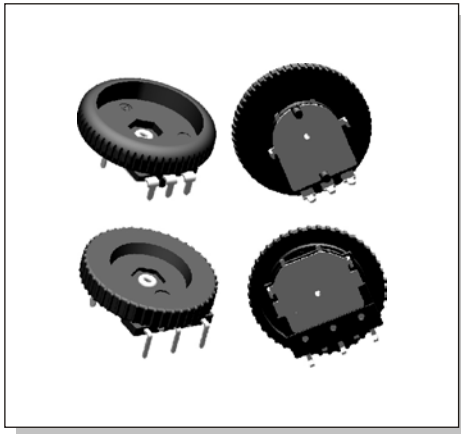
CIRCUIT



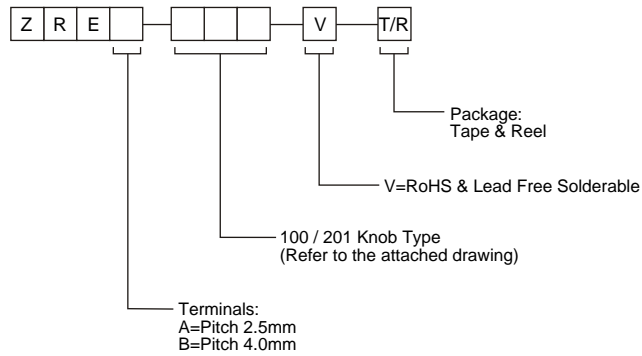
TT5



P.C.B. LAYOUT



HOW TO ORDER



SPECIFICATION

MECHANICAL

Operation Force : 3-60gf-cm
 Total Rotary Angle: 360°(12 Pulse)

ENVIRONMENTAL

Operation Temperature Range: -30°C to +80°C
 Storage Temperature Range: -40°C to +85°C

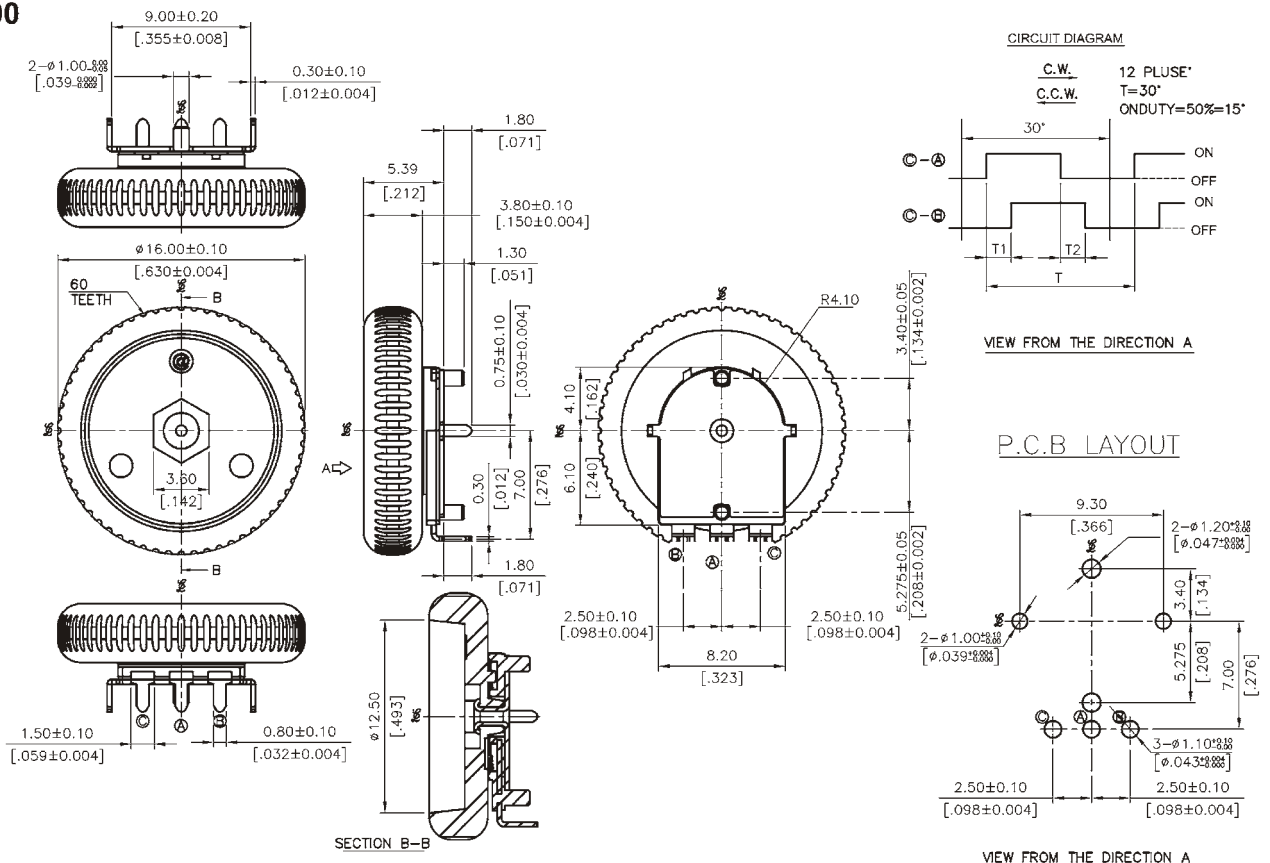
ELECTRICAL

Electrical Life: 20,000 steps
 Switching Rating: 1 mA, 5 VDC

PACKAGE

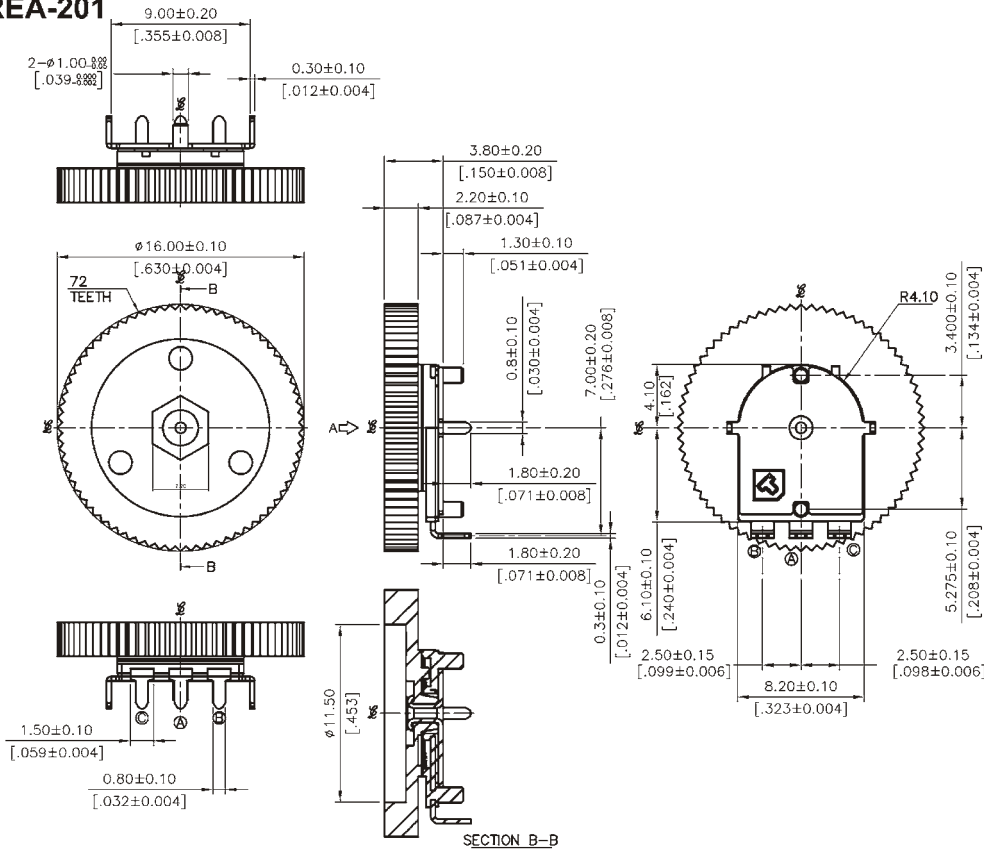
ZREA: 400 pcs/reel
 ZREB: 450 pcs/reel

ZREA-100



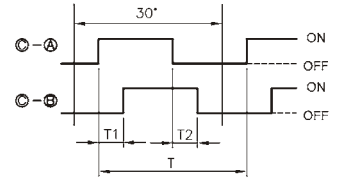
MULTIFUNCTION SWITCH

ZREA-201



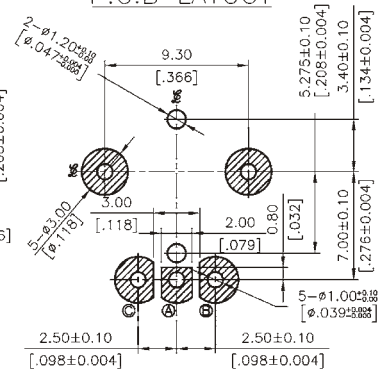
CIRCUIT DIAGRAM

C.W. 12 PULSE*
C.C.W. T=30°
ONDUTY=50%=15°



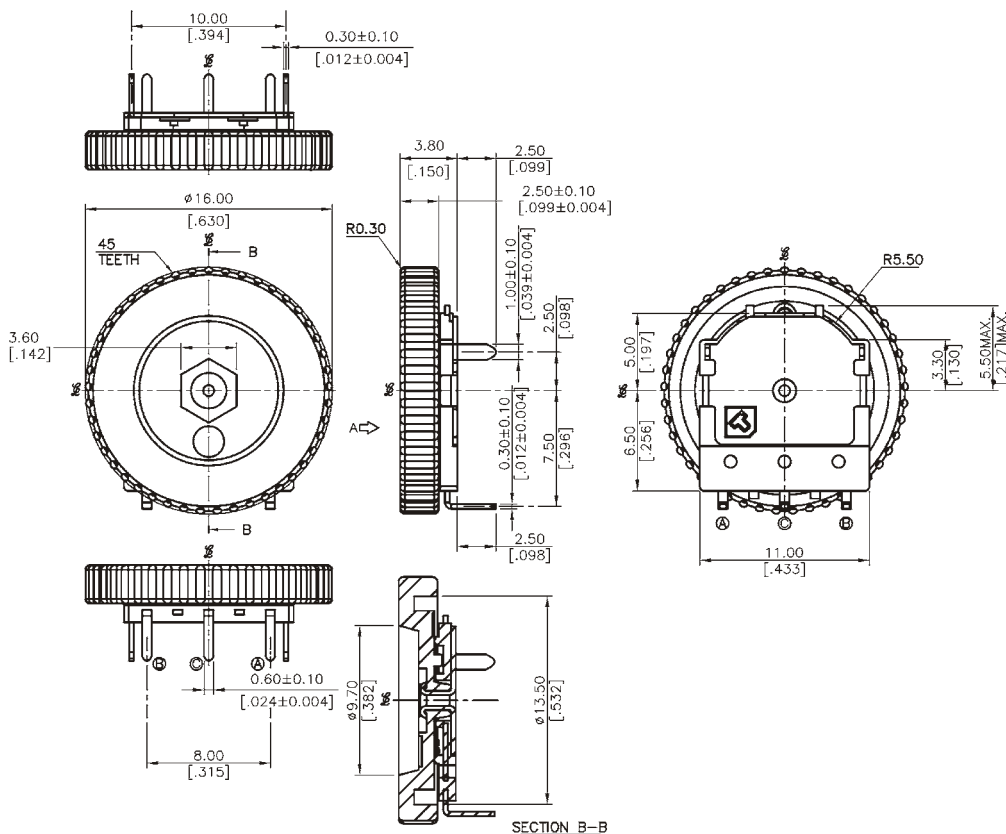
VIEW FROM THE DIRECTION A

P.C.B LAYOUT



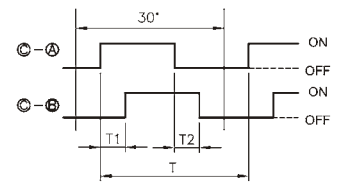
HATCHED AREA SHOW SOLDERING LAND
VIEW FROM THE DIRECTION A

ZREB-100



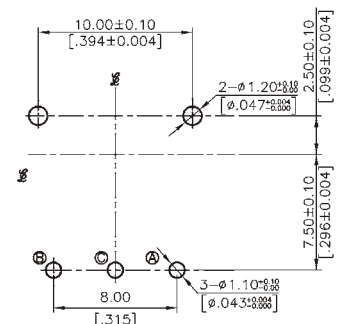
CIRCUIT DIAGRAM

C.W. 12 PULSE*
C.C.W. T=30°
ONDUTY=50%=15°



VIEW FROM THE DIRECTION A

P.C.B LAYOUT



VIEW FROM THE DIRECTION A

LED LAMP



1ATF-BL

Dome Type Lens

148



1ATF-BN

Dome Type Lens

149



2BTF-BN

Flat Type Lens

150



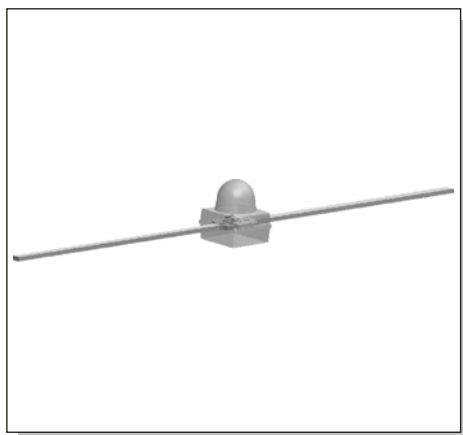
2CTF-BN

Flat Type Lens

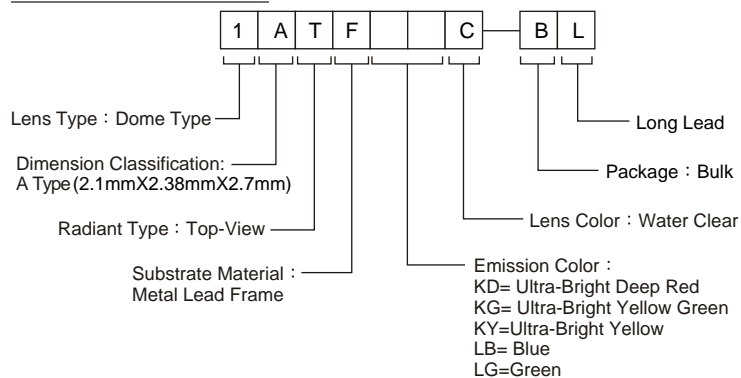
151

1ATF-BL SERIES

Dome Type Lens

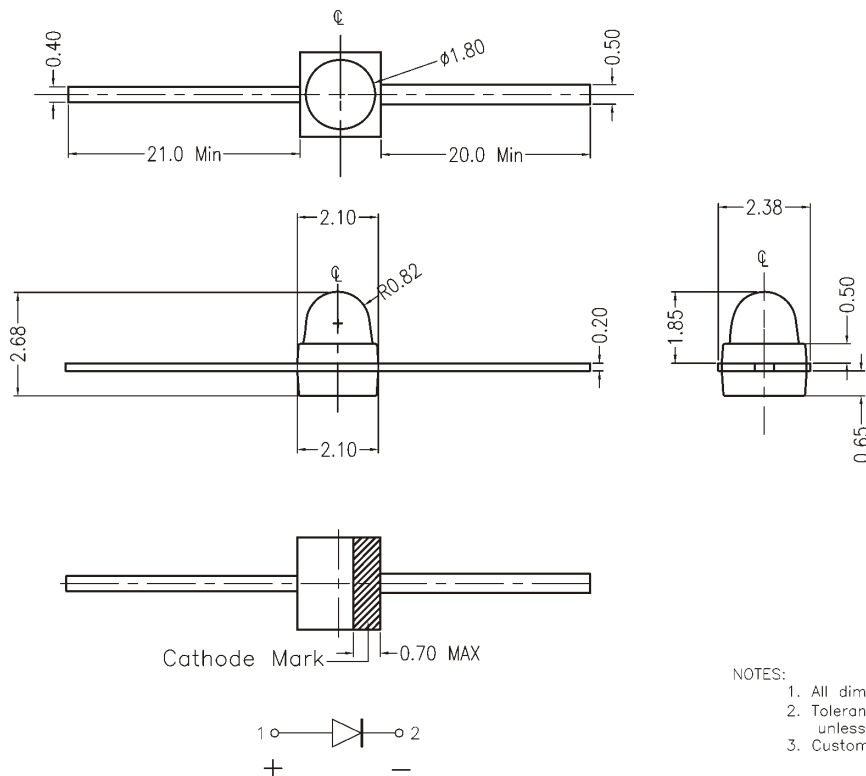


HOW TO ORDER



SPECIFICATION

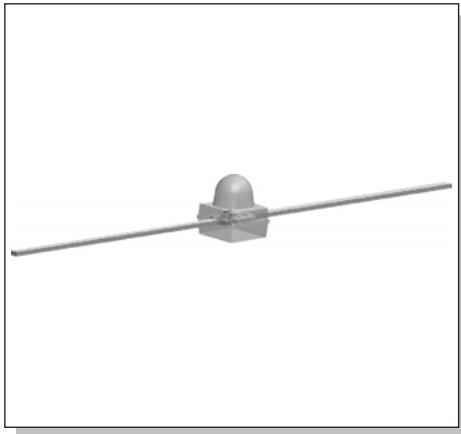
Part No.	Dominant Wavelength λ_D Typ. (nm)	Luminous Intensity I_v Typ. (mcd)	Viewing Angle Typ. ($2 \cdot \theta_{1/2}$)
1ATFLBC-BL	470	200	30
1ATFKGC-BL	570	25	30
1ATFKDC-BL	640	20	30
1ATFLGC-BL	520	1000	30
1ATFKYC-BL	590	15	30



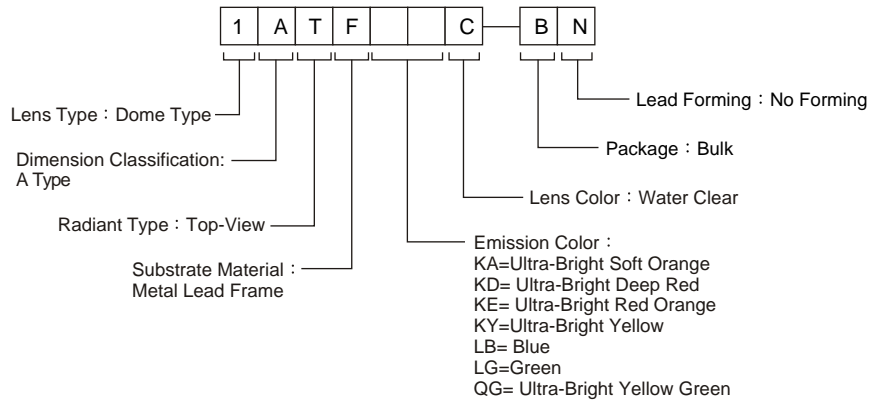
- NOTES:
1. All dimensions are in millimeters.
 2. Tolerance is $\pm 0.10\text{mm} (.004\text{'})$ unless otherwise noted.
 3. Customized request are welcome!

1ATF-BN SERIES

Dome Type Lens

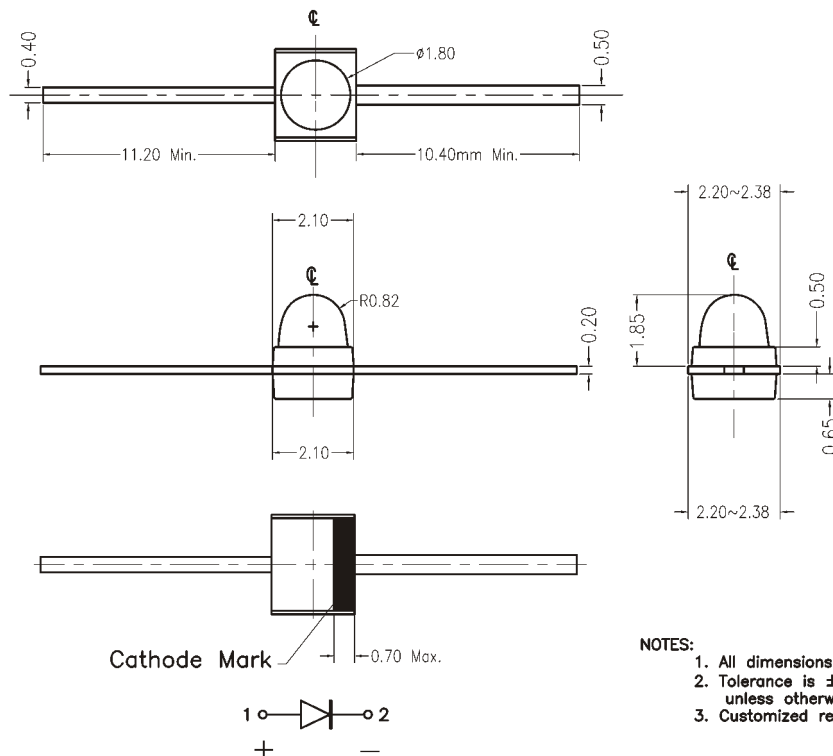


HOW TO ORDER



SPECIFICATION

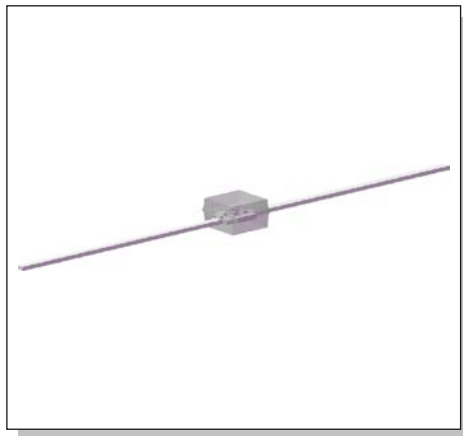
Part No.	Dominant Wavelength λ_D Typ. (nm)	Luminous Intensity I_v Typ. (mcd)	Viewing Angle Typ. ($2 \cdot \theta_{1/2}$)
1ATFKAC-BN	605	1100	30
1ATFKDC-BN	638	1000	30
1ATFKEC-BN	620	3000	30
1ATFKYC-BN	585	1200	30
1ATFLBC-BN	470	1100	30
1ATFLGC-BN	520	2800	30
1ATFQGC-BN	570	550	30



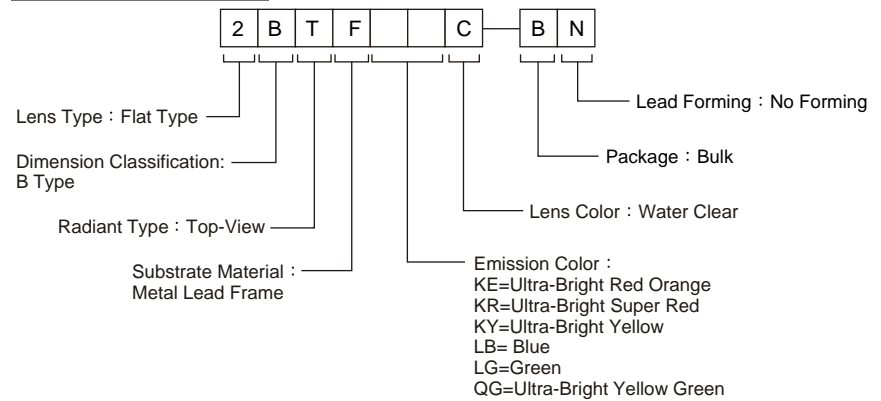
- NOTES:
1. All dimensions are in millimeters.
 2. Tolerance is $\pm 0.10\text{mm} (.004")$ unless otherwise noted.
 3. Customized request are welcome!

2BTF SERIES

Flat Type Lens

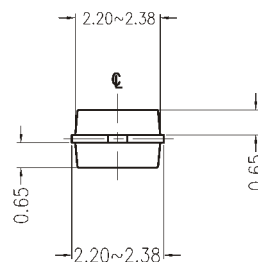
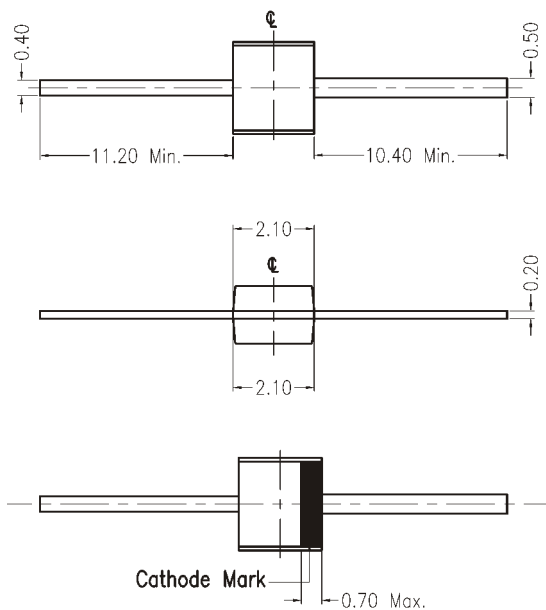


HOW TO ORDER



SPECIFICATION

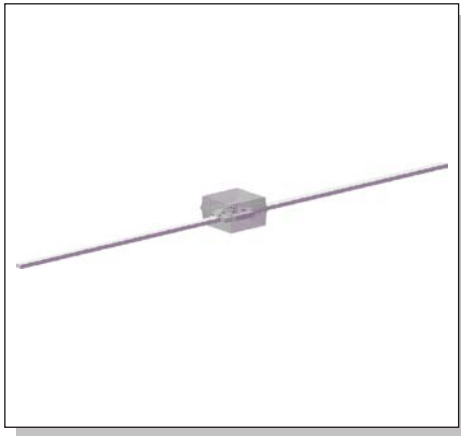
Part No.	Dominant Wavelength λ_D Typ. (nm)	Luminous Intensity I_v Typ. (mcd)	Viewing Angle Typ. ($2 \cdot \theta_{1/2}$)
2BTFKEC-BN	620	80	140
2BTFKRC-BN	630	60	140
2BTFKYC-BN	550	60	140
2BTFLLC-BN	470	50	140
2BTFLLG-BN	520	160	140
2BTFQGC-BN	570	30	140



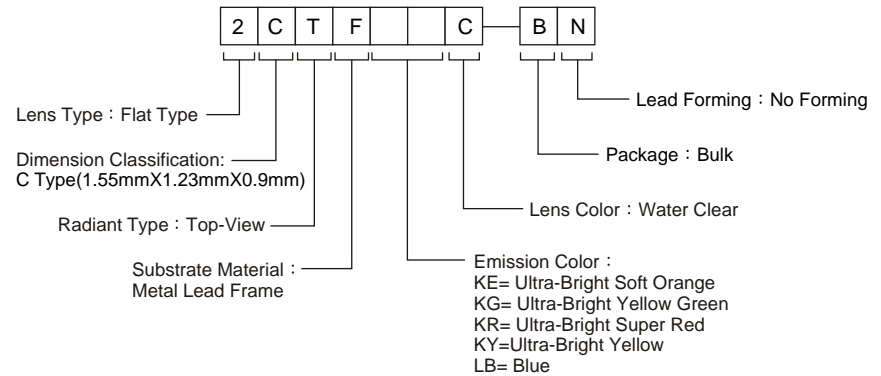
- NOTES:
1. All dimensions are in millimeters.
 2. Tolerance is $\pm 0.10\text{mm} (.004")$ unless otherwise noted.
 3. Customized request are welcome!

2CTF SERIES

Flat Type Lens

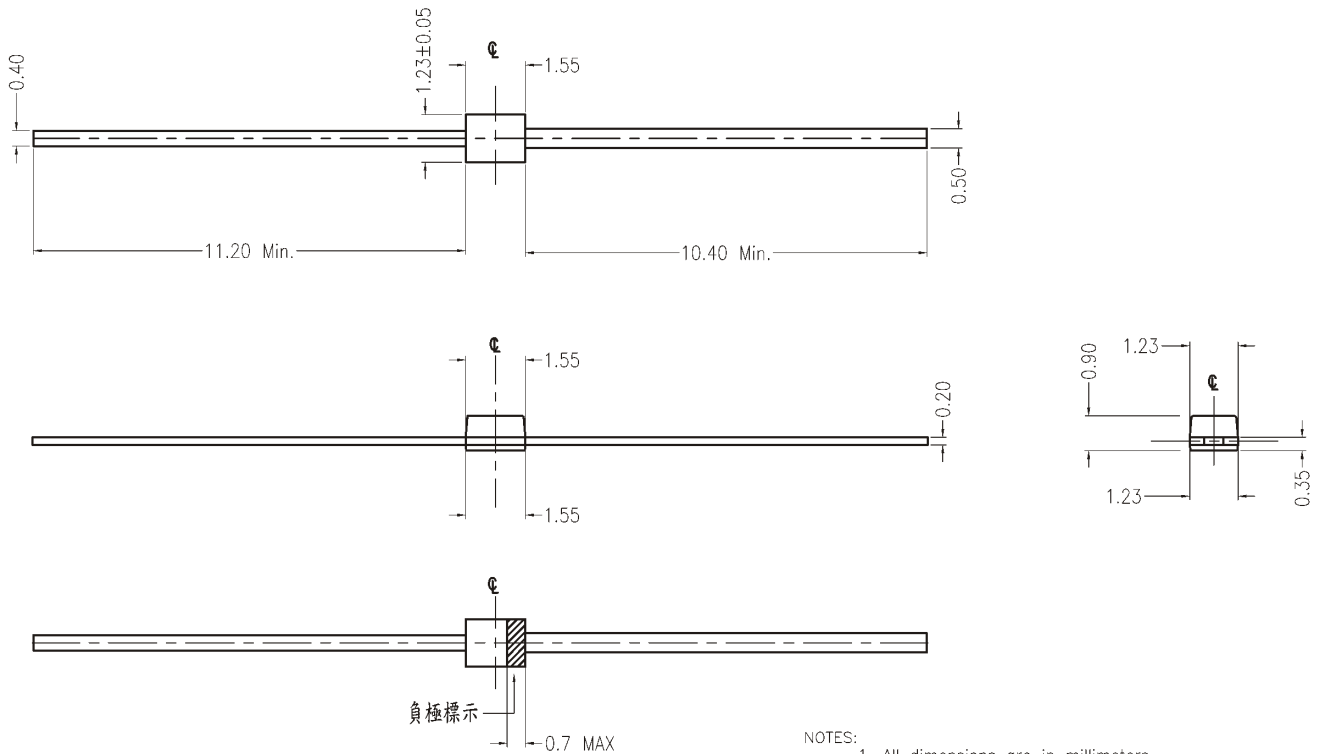


HOW TO ORDER

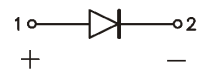


SPECIFICATION

Part No.	Dominant Wavelength λ_D Typ. (nm)	Luminous Intensity I_v Typ. (mcd)	Viewing Angle Typ. ($2 \cdot \theta_{1/2}$)
2CTFLBC-BN	470	80	140
2CTFKYC-BN	590	150	140
2CTFKRC-BN	630	90	140
2CTFKAC-BN	605	100	140
2CTFKGC-BN	570	35	140



負極標示



- NOTES:
- All dimensions are in millimeters.
 - Tolerance is $\pm 0.10\text{mm}(0.004")$ unless otherwise noted.
 - Customized request are welcome!

LED LAMP