

# Kingtronics®

# GKT-GL

## Aluminum Electrolytic Capacitor – Radial

### FEATURES

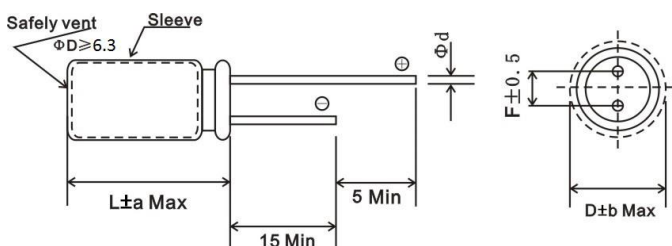
- ◆ At 55°C (Φ5~Φ6: 2000hours Φ8~Φ10: 3000hours) Ultra lower impedance
- ◆ Load life of 5000 hours at 105°C
- ◆ Low Impedance, Long Life
- ◆ High Frequency
- ◆ Switch power supply
- ◆ Excellent ripple current capability



### SPECIFICATIONS

OPERATING TEMPERATURE RANGE (°C)	-40°C ~ +105°C									
Capacitance Range (μF)	0.47 ~ 15000									
Rated Voltage Range (V)	6.3 ~ 100									
CAPACITANCE TOLERANCE (25°C, 120Hz)	±20%									
LEAKAGE CURRENT (μA)	I ≤ 0.02CV or 3uA, whichever is greater (after 2 minutes at 25°C) Where, C: Nominal Capacitance (μF) V: Rated Voltage (V)									
DISSIPATION FACTOR (25°C, 120Hz)	Wv (V)	6.3	10	16	25	35	50	63	100	
	Tan δ	0.22	0.19	0.16	0.14	0.12	0.10	0.09	0.08	
Temperature Stability (120Hz)	0.02 is added to each 1000μF increase over 1000μF									
	Rated Voltage	6.3	10	16	25	35	50	63	100	
LOAD LIFE (+105°C)	Z-40°C/Z+20°C	3	3	3	3	3	3	3	3	
	Time	5000hours (Φ5~6: 2000hours Φ8~10: 3000hours)								
	Leakage Current	Not more than the specified value.								
	Capacitance Change	Within±20% of the initial value								
SHELF LIFE (+105°C)	Dissipation Factor	Not more than 200% of the specified value.								
	After leaving capacitors under no load at 105°C for 1000 hours, they meet the specified value for load life Characteristics listed above. *after test: U <sub>R</sub> to be applied for 30 minutes, 24 to 48 hours before measurement.									

### DIMENSIONS (mm)



ΦD	5	6.3	8	10	13	16	18
F	2.0	2.5	3.5	5.0		7.5	
Φd ± 0.05	0.5	0.5	0.5	0.6		0.8	

a Max	D < 18	D = 18	
	+1.5 -1.0	L < 35.5 +1.5 -1.0	L ≥ 35.5 +2.0 -1.0

b Max	D < 18	0.5
	D ≥ 18	1.0

### MULTIPLIER FOR RIPPLE CURRENT

Frequency Coefficient					Dia	Life Time
Cap(μF) \ Freq(Hz)	120	1K	10K	100K		
0.47~4.7	0.40	0.68	0.78	1.0	5~6.3	2000h
5.6~47	0.50	0.76	0.87	1.0	8~10	3000h
56~270	0.70	0.85	0.90	1.0	≥13	5000h
330~1000	0.80	0.93	0.98	1.0		
1200~15000	0.90	0.95	1.0	1.0		

Temperature Coefficient		
Temperature(°C)	+70	+ 5 +105
Factor	1.96	1.68 1.0

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**STANDARD RATINGS**

V μF	6.3V	10V	16V	25V	35V	50V	63V	100V
1	--	--	--	--	--	5x11	--	
2.2	--	--	--	--	--	5x11	--	
3.3	--	--	--	--	--	5x11	--	
4.7	--	--	--	--	5x11	5x11	--	
6.8	--	--	--	--	5x11	5x11	--	
10	--	--	--	--	5x11	5x12	5x11	6.3x11
15	--	--	--	--	5x11	5x12	--	
18	--	--	--	--	5x11	5x12	--	
22	--	--	--	5x11	5x11	6.3x11	6.3x11	8x12
27	--	--	--	--	5x11	6.3x11	--	
33	--	--	--	--	6.3x11	6.3x11	6.3x11	10x13
39	--	--	--	--	6.3x11	6.3x11	--	
47	--	--	5x11	5x11	6.3x11	6.3x12	8x12	10x17
56	--	--	5x11	5x11	6.3x11	6.3x12	--	
68	--	--	5x12	5x12	6.3x11	8x12	10x13	10x21
82	--	--	--	6.3x11	6.3x11	8x12	--	
100	--	5x11	6.3x11	6.3x11	8x12	8x12	10x17	10x20
120	--	5x11	6.3x11	6.3x11	8x12	8x20	--	
150	5x11	5x11	6.3x11	8x12	8x12	8x20	--	
180	5x11	6.3x11	6.3x11	8x12	8x14	8x20	--	
220	6.3x11	6.3x11	6.3x11	8x12	10x17	10x17	10x21	16x26
270	6.3x11	6.3x11	8x12	8x14	10x17	10x21	--	
330	6.3x11	8x12	8x12	8x14	10x17	10x21	13x20	16x26
390	6.3x12	8x12	--	8x20	10x17	13x20	--	
470	8x12	8x12	8x12	10x17	10x17	13x20 13x21	13x20	16x31
560	8x12	8x12	8x16	8x20	10x25	13x21	--	
680	8x12	8x12	8x16	10x17	13x20	13x30	16x26	
820	8x14	8x16	8x20	10x25	13x20	13x35	--	
1000	8x16	8x16	10x17	13x20	13x25	16x25	16x26	
1200	8x16	10x17	10x21	13x20	16x25	13x30	16x30	
1500	8x16	10x21	13x20	13x20	13x35	16x26	--	
1800	10x17	10x25	13x20	13x25	16x26	16x32	--	
2200	10x20	13x20	13x20	13x25	16x26	16x35	18x40	
2700	10x21	13x21	16x26	13x25	16x35	18x40	--	
3300	13x20	13x20	13x30	16x26	16x35	18x40	--	
3900	13x25	--	16x26	16x26	18x40	--	--	
4700	13x25	13x25	16x26	16x26	--	--	--	
5600	16x26	16x30	16x35	--	--	--	--	
6800	16x26	16x30	18x25	--	--	--	--	
8200	16x32	16x35	--	--	--	--	--	
10000	16x35	--	--	--	--	--	--	

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### TYPICAL CURVES

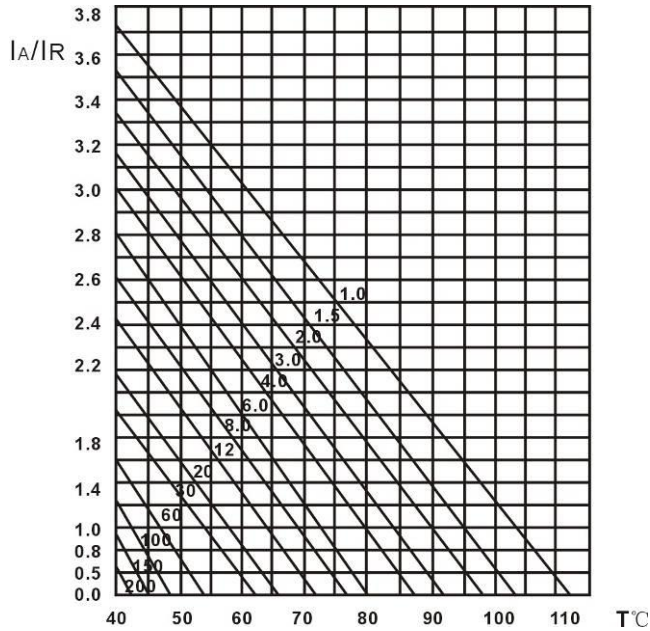


Fig.4 Multiplier of useful life as a function of ambient Temperature and ripple current load

$I_A$  = actual ripple current 120KHz  
 $I_R$  = rated ripple current at 100KHz, 105°C

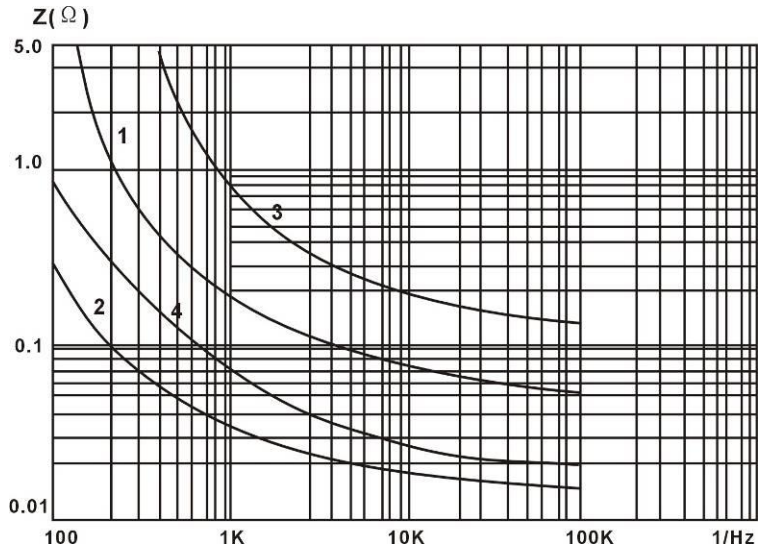


Fig.3 Typical impedance as a function of frequency

1.	10V1000μF	10x20
2.	10V10000μF	18x35.5
3.	63V100μF	10x20
4.	63V1000μF	18x35.5

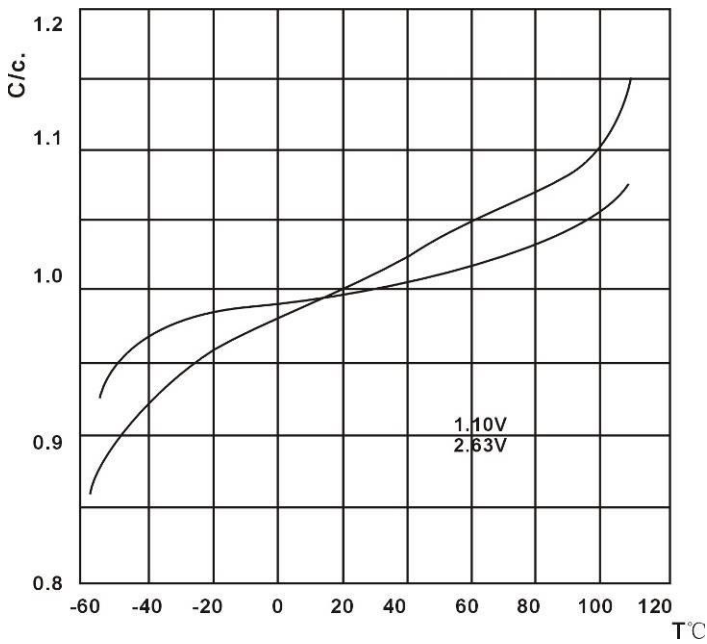


Fig. 1 Typical multiplier of capacitance as a function of ambient temperature

$C_o$  = capacitance at 25°C, 120Hz

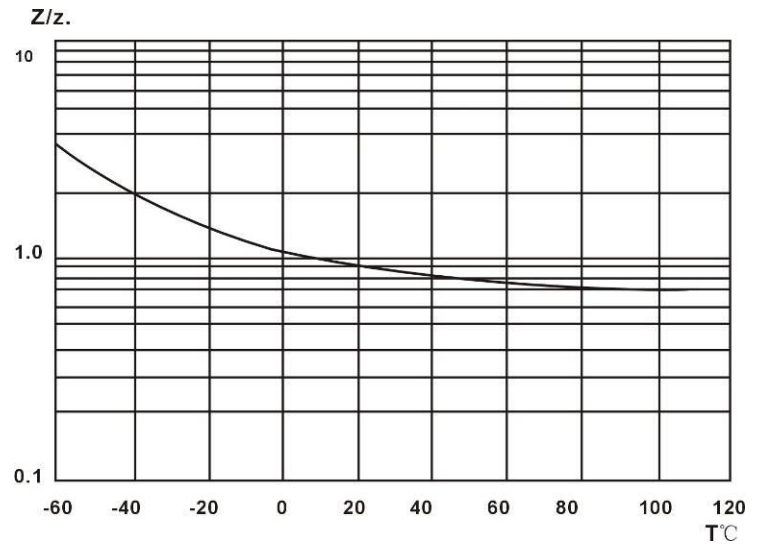


Fig. 2 Typical multiplier of impedance as a function of ambient temperature

$Z_o$  – typical impedance to 25°C, 100KHz

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**HOW TO ORDER**

<b>GKT</b>	<b>GL</b>	<b>0J</b>	<b>0R1</b>	<b>M</b>	<b>00500110</b>	<b>020</b>	<b>000</b>	<b>B</b>	<b>R</b>
Series	Sub Series	Rated Voltage	Capacitance	Capacitance Tolerance	Dimension	Pitch/Pins	Lead Length	Packing	Pb
		1.	2.	3.	4.	5.	6.	7.	8.

**NOTE:****1. Rated Voltage**

Code	0J	1A	1C	1D	1E	1V	1G	1H	1J	1K
Voltage	6.3V	10V	16V	20V	25V	35V	40V	50V	63V	80V

Code	2A	2B	2C	2K	2D	2E	2F	2U	2V	2G	2X	2W	2H	2Y
Voltage	100V	120V	160V	180V	200V	250V	315V	330V	350V	400V	420V	450V	500V	550V

**2. Capacitance**

Code	0R1	R22	R33	R47	010	2R2	3R3	4R7	100	220	330	470	101
Capacitance (µF)	0.1	0.22	0.33	0.47	1	2.2	3.3	4.7	10	22	33	47	100

Code	221	271	331	391	471	561	681	102	222	332	472	103	223
Capacitance (µF)	220	270	330	390	470	560	680	1000	2200	3300	4700	10000	22000

**3. Capacitance Tolerance**

Code	K	L	M	P	Q	R	T	U	V	H	F
Tolerance	±10%	±15%	±20%	+100-0%	+30-10%	+20-0%	+50-10%	+75-10%	+20-10%	+20-5%	+30-0

**4. Dimension**

Code	00500110	00630120	01300200	01600300	03500450
Dimension (mm)	5x11	6.3x12	13x20	16x30	35x45

**5. Pitch/Pins**

Code	020	025	035	050	075	100	127	4pins
Pitch (mm)/ Pins	2.0	2.5	3.5	5.0	7.5	10.0	12.7	4PS

**6. Lead Length**

Code	000	040	045	050
Lead Length	Standard	4.0	4.5	5.0

**7. Packing**

Code	A	B
Packing	Ammo	Bulk

**8. Pb**

Code	L	R
Pb	Leaded	RoHS

Note: Specifications are subject to change without notice.

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