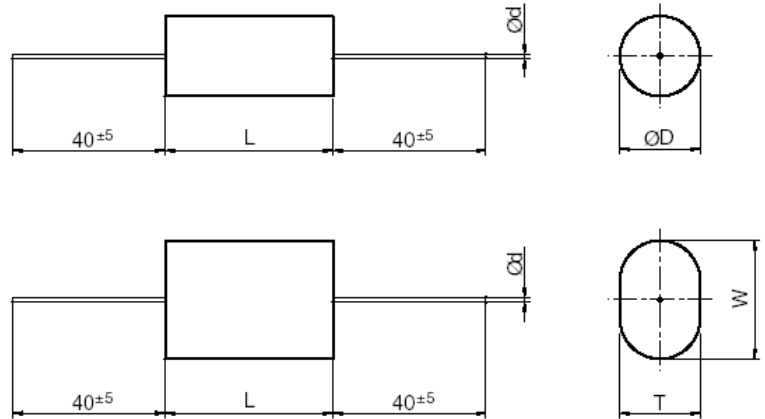


MKP Series

**AXIAL CAPACITORS
PCB APPLICATIONS**

General Characteristics

- Self healing
- Low losses
- High ripple current
- High contact reliability
- Suitable for high frequency applications

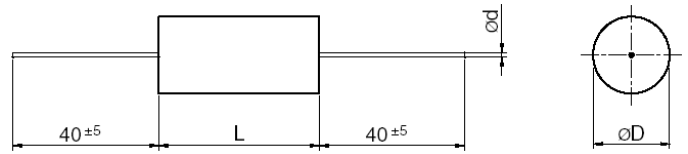


D	< 10mm	> 10mm ≥ 22mm	> 22mm
d	0.8mm 20 AWG	1mm 18 AWG	1.2mm 16 AWG

TECHNICAL DATA

General technical data	VDE 0560 – IEC 61071 – EN 61071
Application class (DIN 40040)	GPD / LS
Temperature range (Case)	-40 to +85 °C
Max permissible ambient temperature (operation at rated power, rated current and natural cooling)	+ 70 °C
Capacitance tolerance code	J = ±5%; K = ±10%
Peak non-repetitive max current	$I_{PKR} \times 1.5$
Test voltage terminal to terminal U_{TT}	2 U_N for 10 seconds
Insulation resistance test conditions	Temperature: +25°C ± 5% Voltage charge time: 1 minute Test voltage: 100Vdc Typical value ($R_{is} \times C$): 3000 seconds
Test voltage terminal to case U_{TC}	3KV – 50Hz for 60 seconds
Dissipation factor (tgδ)	$\leq 5 \times 10^{-4}$ at 1kHz and 20°C
Damp heat test – Test conditions	Temperature: +40°C – Relative humidity: 93% ± 2% Test duration: 56 days
Performances	Capacitance change: $\leq \pm 5\%$ tgδ change: $\leq 50\%$ of nominal value at 1kHz Insulation resistance: $\leq 50\%$ of limit value
IEC climatic category	40 / 85 / 56 according to IEC 68-1
Capacitance deviation in the operating temperature range of -40 to +85 °C	±1.5% max on capacitance value measured at +20°C
Change of capacitance versus operating time	-3% after 30,000 hours at U_{RMS} or after 100,000 hours at U_N
Protection	Polyester wrapping with epoxy resin fill
Flame retardant (IEC 384-1)	C4C series flame retardant execution available on request.
Leads	Tinned copper (medium lead content 5%)
Installation	Any position
Life Expectancy	$\geq 30,000$ hours at U_{RMS} ; $\geq 100,000$ hours at U_N
Failure quota	$300 / 10^9$ components hour
Vibration strength	DIN 40040, Table 6, Class V

AXIAL CAPACITOR SNUBBER APPLICATIONS



Peak Voltage Table

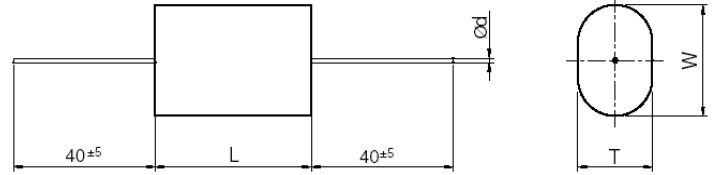
Un	850V	1200V	2000V	3000V
Umax	1200V	1600V	2400V	3500V

GENERAL CHARACTERISTICS

C μ F	UN V-	URMS V-	dv/dt V/ μ s	IPKR A	ESR max @ 100kHz (m Ω)	IRMS (100kHz) @ 70°C (A)	Dimensions Max mm			NAA Part Number	Factory Part Number
							D	L	d		
0.1	850	450	450	45	16.6	5	10.5	33.0	0.8	C44104-850BSN	C4CAMUB3100AA0-
0.15	850	450	450	68	11.5	7	12.5	33.0	0.8	C44154-850BSN	C4CAMUB3150AA0-
0.22	850	450	450	99	8.1	9	15.5	33.0	1.0	C44224-850BSN	C4CAMUC3220AA0-
0.33	850	450	450	149	5.8	9	18.5	33.0	1.0	C44334-850BSN	C4CAMUC3330AA0-
0.47	850	450	450	212	4.6	9	21.5	33.0	1.0	C44474-850BSN	C4CAMUC3470AA0-
0.68	850	450	300	204	5.1	9	21.0	44.0	1.0	C44684-850BSN	C4CAMUC3680AA1-
1	850	450	300	300	3.8	12	25.0	44.0	1.2	C44105-850BSN	C44CAMUD4100AA1-
1.5	850	450	300	450	3.1	12	30.5	44.0	1.2	C44155-850BSN	C4CAMUD4150AA1-
2	850	450	200	400	3.8	12	28.5	58.0	1.2	C44205-850BSN	C4CAMUD4200AA3-
2.2	850	450	200	440	3.7	12	29.5	58.0	1.2	C44225-850BSN	C4CAMUD4220AA3-
2.5	850	450	200	500	3.5	12	31.5	58.0	1.2	C44255-850BSN	C4CAMUD4250AA3-
0.047	1200	500	700	33	27.1	4	10.0	33.0	0.8	C44473-1200B	C4CAPUB2470AA0-
0.068	1200	500	700	48	19.1	5	12.0	33.0	0.8	C44683-1200B	C4CAPUB2680AA0-
0.1	1200	500	700	70	13.4	7	14.0	33.0	0.8	C44104-1200B	C4CAPUB3100AA0-
0.15	1200	500	700	105	9.2	9	17.5	33.0	1.0	C44154-1200B	C4CAPUC3150AA0-
0.22	1200	500	700	154	6.8	9	20.5	33.0	1.0	C44224-1200B	C4CAPUC3220AA0-
0.33	1200	500	450	149	7.2	9	20.0	44.0	1.0	C44334-1200B	C4CAPUC3330AA1-
0.47	1200	500	450	212	5.6	9	23.0	44.0	1.0	C44474-1200B	C4CAPUC3470AA1-
0.68	1200	500	450	306	4.2	12	27.5	44.0	1.2	C44684-1200B	C4CAPUD3680AA1-
1	1200	500	450	450	3.5	12	33.0	44.0	1.2	C44105-1200B	C4CAPUD4100AA1-
1.2	1200	500	275	330	4.5	12	29.0	58.0	1.2	C44125-1200B	C4CAPUD4120AA3-
1.5	1200	500	275	413	4.0	12	32.0	58.0	1.2	C44155-1200B	C4CAPUD4150AA3-
0.022	2000	630	1150	25	48.2	3	10.5	33.0	0.8	C44223-2000B	C4CAWUB2220AA0-
0.033	2000	630	1150	38	32.5	4	12.5	33.0	0.8	C44333-2000B	C4CAWUB2330AA0-
0.047	2000	630	1150	54	23.0	6	15.0	33.0	1.0	C44473-2000B	C4CAWUC2470AA0-
0.068	2000	630	1150	78	16.3	7	17.5	33.0	1.0	C44683-2000B	C4CAWUC2680AA0-
0.1	2000	630	1150	115	11.6	9	20.5	33.0	1.0	C44104-2000B	C4CAWUC3100AA0-
0.15	2000	630	700	105	11.3	9	19.5	44.0	1.0	C44154-2000B	C4CAWUC3150AA1-
0.22	2000	630	700	154	8.0	12	23.5	44.0	1.2	C44224-2000B	C4CAWUD3220AA1-
0.33	2000	630	700	231	5.9	12	28.5	44.0	1.2	C44334-2000B	C4CAWUD3330AA1-
0.47	2000	630	700	329	4.8	12	33.5	44.0	1.2	C44474-2000B	C4CAWUD3470AA1-
0.56	2000	630	400	224	6.1	12	29.0	58.0	1.2	C44564-2000B	C4CAWUD3560AA3-
0.68	2000	630	400	272	5.4	12	32.0	58.0	1.2	C44684-2000B	C4CAWUD3680AA3-
0.0068	3000	750	2100	14.5	132.0	2	10.0	33.0	0.8	C44682-3000B	C4CAYUB1680AA0-
0.01	3000	750	2100	21	90.3	3	12.0	33.0	0.8	C44103-3000B	C4CAYUB2100AA0-
0.015	3000	750	2100	32	60.5	4	14.5	33.0	1.0	C44153-3000B	C4CAYUC2150AA0-
0.022	3000	750	2100	46	41.6	5	17.0	33.0	1.0	C44223-3000B	C4CAYUC2220AA0-
0.033	3000	750	2100	69	28.3	6	20.5	33.0	1.0	C44333-3000B	C4CAYUC2330AA0-
0.047	3000	750	1250	59	25.7	7	19.0	44.0	1.0	C44473-3000B	C4CAYUC2470AA1-
0.068	3000	750	1250	85	18.3	9	22.5	44.0	1.0	C44683-3000B	C4CAYUC2680AA1-
0.1	3000	750	1250	125	12.8	12	27.0	44.0	1.2	C44104-3000B	C4CAYUD3100AA1-
0.15	3000	750	1250	188	9.2	12	32.0	44.0	1.2	C44154-3000B	C4CAYUD3150AA1-
0.22	3000	750	750	165	9.5	12	31.0	58.0	1.2	C44224-3000B	C4CAYUD3220AA3-

Tolerance: J (\pm 5%); K (\pm 10%)

AXIAL CAPACITOR SNUBBER APPLICATIONS



Peak Voltage Table

Un	850V	1200V	2000V	3000V
Umax	1200V	1600V	2400V	3500V

GENERAL CHARACTERISTICS

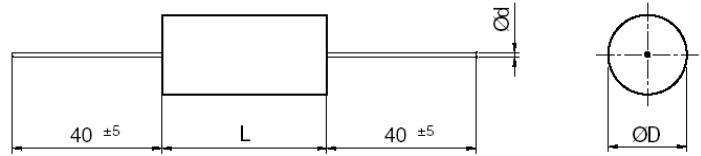
C μ F	UN V-	URMS V-	dv/dt V/ μ s	IPKR A	ESR max @ 100kHz (m Ω)	IRMS (100kHz) @ 70°C (A)	Dimensions Max mm				NAA / Factory Part Number
							T	W	L	d	
0.1	850	450	450	45	16.7	5	7.9	11.8	33.0	0.8	C4HAMUB3100AA0-
0.15	850	450	450	68	11.5	6	10.0	13.9	33.0	0.8	C4HAMUB3150AA0-
0.22	850	450	450	99	8.1	9	11.1	17.4	33.0	1.0	C4HAMUC3220AA0-
0.33	850	450	450	149	5.8	9	14.2	20.4	33.0	1.0	C4HAMUC3330AA0-
0.68	850	450	300	204	5.1	9	16.8	23.1	44.0	1.0	C4HAMUC3680AA1-
1.0	850	450	190	190	6.1	12	16.3	22.6	58.0	1.2	C4HAMUD4100AA3-
0.047	1200	500	700	33	27.2	4	7.5	11.4	33.0	0.8	C4HAPUB2470AA0-
0.068	1200	500	700	48	19.1	5	9.3	13.2	33.0	0.8	C4HAPUB2680AA0-
0.1	1200	500	700	70	13.5	6	11.5	15.4	33.0	0.8	C4HAPUB3100AA0-
0.15	1200	500	700	105	9.2	9	13.1	19.4	33.0	1.0	C4HAPUC3150AA0-
0.22	1200	500	700	154	6.8	9	16.4	22.6	33.0	1.0	C4HAPUC3220AA0-
0.33	1200	500	450	149	7.2	9	15.5	21.8	44.0	1.0	C4HAPUC3330AA1-
0.47	1200	500	450	212	5.6	9	19.0	25.3	44.0	1.0	C4HAPUC3470AA1-
0.68	1200	500	270	184	6.6	12	17.9	24.2	58.0	1.2	C4HAPUD3680AA3-
0.022	2000	630	1150	25	48.3	3	7.7	11.6	33.0	0.8	C4HAWUB2220AA0-
0.033	2000	630	1150	38	32.6	4	9.6	13.6	33.0	0.8	C4HAWUB2330AA0-
0.047	2000	630	1150	54	23.1	5	10.5	16.8	33.0	1.0	C4HAWUC2470AA0-
0.068	2000	630	1150	78	16.3	7	13.1	19.3	33.0	1.0	C4HAWUC2680AA0-
0.1	2000	630	1150	115	11.6	9	16.3	22.6	33.0	1.0	C4HAWUC3100AA0-
0.15	2000	630	700	105	11.3	9	15.5	21.8	44.0	1.0	C4HAWUC3150AA1-
0.22	2000	630	700	154	8.0	12	19.5	25.5	44.0	1.2	C4HAWUD3220AA1-
0.33	2000	630	410	135	9.2	12	18.4	24.7	58.0	1.2	C4HAWUD3330AA3-
0.0068	3000	750	2100	14.5	133.0	2	7.5	11.4	33.0	0.8	C4HAYUB1680AA0-
0.01	3000	750	2100	21	90.5	2	9.1	13.1	33.0	0.8	C4HAYUB2100AA0-
0.015	3000	750	2100	32	60.6	3	10.2	16.5	33.0	1.0	C4HAYUC2150AA0-
0.022	3000	750	2100	46	41.7	4	12.7	19.0	33.0	1.0	C4HAYUC2220AA0-
0.033	3000	750	2100	69	28.3	5	16.0	22.3	33.0	1.0	C4HAYUC2330AA0-
0.047	3000	750	1250	59	25.7	6	14.8	21.0	44.0	1.0	C4HAYUC2470AA1-
0.068	3000	750	1250	85	18.3	9	18.1	24.4	44.0	1.0	C4HAYUC2680AA1-
0.1	3000	750	750	75	18.9	10	17.1	23.4	58.0	1.2	C4HAYUD3100AA3-

Tolerance: J ($\pm 5\%$); K ($\pm 10\%$)

AXIAL CAPACITOR SWITCHING APPLICATIONS

Peak Voltage Table

Un	250V	400V	600V	700V	850V
Umax	400V	600V	800V	1000V	1200V



GENERAL CHARACTERISTICS

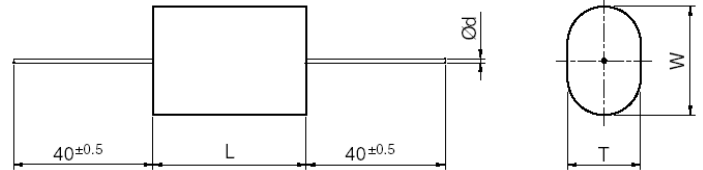
C μF	UN V-	URMS V-	dv/dt V/ μs	IPKR A	ESR max @ 100kHz (m Ω)	IRMS (100kHz) @ 70°C (A)	Dimensions Max mm			NAA Part Number	Factory Part Number
							D	L	d		
1	250	160	60	60	6.7	6	11.0	20.5	0.8	C44105-250B	C4GADUB4100AA4-
2.2	250	160	30	66	10.9	6	11.5	33.0	0.8	C44225-250B	C4GADUB4220AA0-
2.5	250	160	30	75	9.8	7	12.0	33.0	0.8	C44255-250B	C4GADUB4250AA0-
3	250	160	30	90	8.2	8	13.5	33.0	1.0	C44305-250B	C4GADUC4300AA0-
3.3	250	160	30	99	7.5	9	14.0	33.0	1.0	C44335-250B	C4GADUC4330AA0-
4	250	160	30	120	6.4	9	15.5	33.0	1.0	C44405-250B	C4GADUC4400AA0-
5	250	160	30	150	5.4	9	17.0	33.0	1.0	C44505-250B	C4GADUC4500AA0-
6.8	250	160	30	204	4.4	9	19.5	33.0	1.0	C44685-250B	C4GADUC4680AA0-
10	250	160	20	200	5.3	9	20.0	44.0	1.0	C44106-250B	G4GADUC5100AA1-
15	250	160	20	300	3.9	12	24.5	44.0	1.2	C44156-250B	C4GADUD5150AA1-
20	250	160	20	400	3.4	12	28.0	44.0	1.2	C44206-250B	C4GADUD5200AA1-
25	250	160	20	500	3.1	12	31.0	44.0	1.2	C44256-250B	C4GADUD5250AA1-
30	250	160	15	450	4.0	12	29.0	58.0	1.2	C44306-250B	C4GADUD5300AA3-
40	250	160	15	600	3.5	12	33.5	58.0	1.2	C44406-250B	C4GADUD5400AA3-
0.47	400	250	60	28	11.1	6	9.5	28.0	0.8	C44474-400B	C4GAFUB3470AA5-
0.68	400	250	45	31	11.7	6	10.0	33.0	0.8	C44684-400B	C4GAFUB3680AA0-
1	400	250	45	45	8.3	7	12.0	33.0	0.8	C44105-400B	C4GAFUB4100AA0-
1.5	400	250	45	68	5.8	9	14.5	33.0	1.0	C44155-400B	C4GAFUC4150AA0-
2	400	250	45	90	4.7	9	16.5	33.0	1.0	C44205-400B	C4GAFUC4200AA0-
2.2	400	250	45	99	4.4	9	17.5	33.0	1.0	C44225-400B	C4GAFUC4220AA0-
2.5	400	250	45	113	4.0	9	18.5	33.0	1.0	C44255-400B	C4GAFUC4250AA0-
3	400	250	45	135	3.6	9	20.0	33.0	1.0	C44305-400B	C4GAFUC4300AA0-
3.3	400	250	30	99	5.2	9	18.0	44.0	1.0	C44335-400B	C4GAFUC4330AA1-
4	400	250	30	120	4.6	9	19.5	44.0	1.0	C44405-400B	C4GAFUC4400AA1-
4.7	400	250	30	141	4.1	9	21.0	44.0	1.0	C44475-400B	C4GAFUC4470AA1-
5	400	250	30	150	4.0	9	21.5	44.0	1.0	C44505-400B	C4GAFUC4500AA1-
6.8	400	250	30	204	3.2	12	25.0	44.0	1.2	C44685-400B	C4GAFUD4680AA1-
10	400	250	30	300	2.7	12	30.0	44.0	1.2	C44106-400B	C4GAFUD5100AA1-
15	400	250	20	300	4.8	12	31.5	58.0	1.2	C44156-400B	C4GAFUD5150AA3-
0.47	600	330	60	28	13.1	6	11.0	33.0	0.8	C44474-600B	C4GAHUB3470AA0-
0.68	600	330	60	41	9.4	7	13.0	33.0	0.8	C44684-600B	C4GAHUB3680AA0-
1	600	330	60	60	6.6	9	15.5	33.0	1.0	C44105-600B	C4GAHUC4100AA0-
2	600	330	40	80	6.3	9	18.5	44.0	1.0	C44205-600B	C4GAHUC4200AA1-
2.2	600	330	40	88	5.2	9	19.5	44.0	1.0	C44225-600B	C4GAHUC4220AA1-
3	600	330	40	120	4.8	9	22.5	44.0	1.0	C44305-600B	C4GAHUC4300AA1-
3.3	600	330	40	132	4.3	12	23.5	44.0	1.2	C44335-600B	C4GAHUD4330AA1-
4	600	330	40	160	3.8	12	25.5	44.0	1.2	C44405-600B	C4GAHUD4400AA1-
4.7	600	330	40	188	3.5	12	27.5	44.0	1.2	C44475-600B	C4GAHUD4470AA1-
5	600	330	40	200	3.4	12	28.5	44.0	1.2	C44505-600B	C4GAHUD4500AA1-
6.8	600	330	30	204	6.8	12	28.5	58.0	1.2	C44685-600B	C4GAHUD4680AA3-
10	600	330	30	300	5.3	12	34.5	58.0	1.2	C44106-600B	C4GAHUD5100AA3-
0.47	700	400	80	38	9.5	8	14.5	33.0	1.0	C44474-700B	C4GAJUC3470AA0-
0.68	700	400	80	55	7.0	9	17.0	33.0	1.0	C44684-700B	C4GAJUC3680AA0-
1	700	400	80	80	5.2	9	20.5	33.0	1.0	C44105-700B	C4GAJUC4100AA0-
1.5	700	400	60	90	6.4	9	20.5	44.0	1.0	C44155-700B	C4GAJUC4150AA1-
2	700	400	60	120	5.0	12	23.5	44.0	1.2	C44205-700B	C4GAJUD4200AA1-
2.2	700	400	60	132	4.7	12	24.5	44.0	1.2	C44225-700B	C4GAJUD4220AA1-
3	700	400	60	180	3.9	12	28.5	44.0	1.2	C44305-700B	C4GAJUD4300AA1-
3.3	700	400	60	198	3.7	12	30.0	44.0	1.2	C44335-700B	C4GAJUD4330AA1-
4	700	400	60	240	3.5	12	33.0	44.0	1.2	C44405-700B	C4GAJUD4400AA1-
4.7	700	400	40	188	7.9	12	29.5	58.0	1.2	C44475-700B	C4GAJUD4470AA3-
5	700	400	40	200	7.5	12	30.5	58.0	1.2	C44505-700B	C4GAJUD4500AA3-
6.8	700	400	40	272	6.1	12	35.0	58.0	1.2	C44685-700B	C4GAJUD4680AA3-
0.15	850	450	210	32	14.5	5	10.0	33.0	0.8	C44154-850BSW	C4GAMUB3150AA0-
0.22	850	450	210	46	10.3	7	12.0	33.0	0.8	C44224-850BSW	C4GAMUB3220AA0-
0.33	850	450	210	69	7.1	9	14.5	33.0	1.0	C44334-850BSW	C4GAMUC3330AA0-
0.47	850	450	210	99	5.4	9	17.0	33.0	1.0	C44474-850BSW	C4GAMUC3470AA0-
0.68	850	450	210	143	4.2	9	20.5	33.0	1.0	C44684-850BSW	C4GAMUC3680AA0-
1	850	450	140	140	4.7	9	20.5	44.0	1.0	C44105-850BSW	C4GAMUC4100AA1-
1.5	850	450	140	210	3.5	12	24.5	44.0	1.2	C44155-850BSW	C4GAMUD4150AA1-
2	850	450	140	280	3.1	12	28.5	44.0	1.2	C44205-850BSW	C4GAMUD4200AA1-
2.2	850	450	140	308	3.0	12	29.5	44.0	1.2	C44225-850BSW	C4GAMUD4220AA1-
2.5	850	450	140	350	2.9	12	31.5	44.0	1.2	C44255-850BSW	C4GAMUD4250AA1-
3	850	450	90	270	3.6	12	28.0	58.0	1.2	C44305-850BSW	C4GAMUD4300AA3-
3.3	850	450	90	297	3.5	12	29.5	58.0	1.2	C44335-850BSW	C4GAMUD4330AA3-
4	850	450	90	360	3.2	12	32.5	58.0	1.2	C44405-850BSW	C4GAMUD4400AA3-

Tolerance: J ($\pm 5\%$); K ($\pm 10\%$)

AXIAL CAPACITOR SWITCHING APPLICATIONS

Peak Voltage Table

Un	250V	400V	600V	700V
Umax	400V	600V	800V	1000V



GENERAL CHARACTERISTICS

C μ F	UN V-	URMS V-	dv/dt V/ μ s	IPKR A	ESR max @ 100kHz (m Ω)	IRMS (100kHz) @ 70°C (A)	Dimensions Max mm				NAA / Factory Part Number
							T	W	L	d	
1	250	160	60	60	6.7	6	8.6	12.5	20.5	0.8	C4MADUB4100AA4-
2.2	250	160	30	66	11.0	6	9.0	12.9	33.0	0.8	C4MADUB4220AA0-
2.5	250	160	30	75	9.9	7	9.6	13.6	33.0	0.8	C4MADUB4250AA0-
3	250	160	30	90	8.2	8	9.5	15.8	33.0	1.0	C4MADUC4300AA0-
3.3	250	160	30	99	7.6	9	10.1	16.4	33.0	1.0	C4MADUC4330AA0-
4	250	160	30	120	6.5	9	11.4	17.6	33.0	1.0	C4MADUC4400AA0-
5	250	160	30	150	5.4	9	13.0	19.3	33.0	1.0	C4MADUC4500AA0-
6.8	250	160	30	204	4.4	9	15.6	21.9	33.0	1.0	C4MADUC4680AA0-
10	250	160	20	200	5.4	9	16.1	22.4	44.0	1.0	C4MADUC5100AA1-
15	250	160	15	225	6.4	12	16.8	23.1	58.0	1.2	C4MADUD5150AA3-
20	250	160	15	300	5.1	12	19.9	26.2	58.0	1.2	C4MADUD5200AA3-
0.47	400	250	60	28	11.2	5	7.0	10.9	28.0	0.8	C4MAFUB3470AA5-
0.68	400	250	45	31	11.8	6	7.5	11.4	33.0	0.8	C4MAFUB3680AA0-
1	400	250	45	45	8.4	7	10.0	14.0	33.0	0.8	C4MAFUB4100AA0-
1.5	400	250	45	68	5.8	9	11.0	17.5	33.0	1.0	C4MAFUC4150AA0-
2	400	250	45	90	4.7	9	13.0	19.5	33.0	1.0	C4MAFUC4200AA0-
2.2	400	250	45	99	4.4	9	13.3	19.6	33.0	1.0	C4MAFUC4220AA0-
2.5	400	250	45	113	4.0	9	14.4	20.6	33.0	1.0	C4MAFUC4250AA0-
3	400	250	45	135	3.6	9	16.0	22.3	33.0	1.0	C4MAFUC4300AA0-
3.3	400	250	30	99	5.2	9	13.9	20.2	44.0	1.0	C4MAFUC4330AA1-
4	400	250	30	120	4.6	9	15.5	21.8	44.0	1.0	C4MAFUC4400AA1-
4.7	400	250	30	141	4.2	9	17.0	23.3	44.0	1.0	C4MAFUC4470AA1-
5	400	250	30	150	4.0	9	17.7	23.9	44.0	1.0	C4MAFUC4500AA1-
6.8	400	250	20	136	8.5	12	17.5	23.8	58.0	1.2	C4MAFUD4680AA3-
0.47	600	330	60	28	13.2	6	8.5	12.4	33.0	0.8	C4MAHUB3470AA0-
0.68	600	330	60	41	9.5	7	10.5	14.4	33.0	0.8	C4MAHUB3680AA0-
1	600	330	60	60	6.7	9	11.8	18.1	33.0	1.0	C4MAHUC4100AA0-
2	600	330	40	80	6.4	9	14.6	20.8	44.0	1.0	C4MAHUC4200AA1-
2.2	600	330	40	88	5.9	9	15.4	21.7	44.0	1.0	C4MAHUC4220AA1-
3	600	330	40	120	4.8	9	18.4	24.7	44.0	1.0	C4MAHUC4300AA1-
3.3	600	330	30	99	12.6	11	16.2	22.5	58.0	1.2	C4MAHUD4330AA3-
4	600	330	30	120	10.6	12	18.1	24.3	58.0	1.2	C4MAHUD4400AA3-
4.7	600	330	30	141	9.3	12	19.8	26.1	58.0	1.2	C4MAHUD4470AA3-
0.47	700	400	80	38	9.6	8	10.6	16.9	33.0	1.0	C4MAJUC3470AA0-
0.68	700	400	80	55	7.0	9	13.2	19.5	33.0	1.0	C4MAJUC3680AA0-
1	700	400	80	80	5.3	9	16.5	22.8	33.0	1.0	C4MAJUC4100AA0-
1.5	700	400	60	90	6.5	9	16.6	22.9	44.0	1.0	C4MAJUC4150AA1-
2	700	400	40	80	16.4	10	15.7	22.0	58.0	1.2	C4MAJUD4200AA3-
2.2	700	400	40	88	15.0	11	16.6	22.9	58.0	1.2	C4MAJUD4220AA3-
3	700	400	40	120	11.4	12	19.8	26.1	58.0	1.2	C4MAJUD4300AA3-

Tolerance: J ($\pm 5\%$); K ($\pm 10\%$)