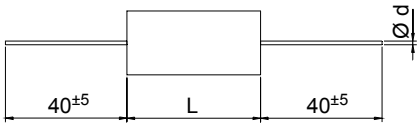
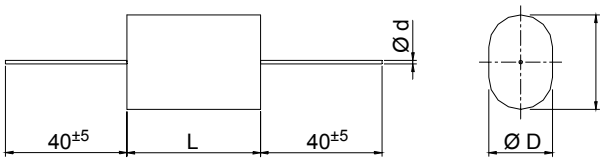
C4C-C4H-C4G-C4M

MKP Series
AXIAL CAPACITORS
PCB APPLICATIONS

General characteristics

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

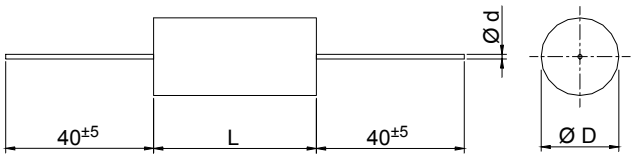




D	< 10 mm	10 mm ÷ 22mm	> 22 mm
d	0.8 mm 20 AWG	1 mm 18 AWG	1.2 mm 16 AWG

TECHNICAL DATA

General technical data	VDE 0560 - IEC61071 - EN61071
Application class (DIN 40040)	GPE / LS
Temperature range (Case)	-40 °C to + 85 °C
Max permissible ambient temperature	+70 °C
Capacitance tolerance code (15th digit)	J = ± 5% ; K = ± 10%
Peak non-repetitive max current	I_{PKR} x 1.5
Test voltage terminal to terminal U_{TT}	2 Un for 10 seconds
Insulation resistance test conditions	Temperature : +25 °C ± 5% Voltage charge time : 1 minute Test voltage : 100 Vdc Typical value (Ris x C) : 3000 seconds
Test voltage terminal to case U_{TC}	$3kV_{DC}$ 50Hz for 60 seconds
Dissipation factor (tgδ)	≤ 5 x 10^{-4} at 1 kHz and 20 °C
Damp heat test - Test conditions	Temperature : +40 °C Relative humidity : 93% ±2% Test duration : 56 days
Performances	Capacitance change : ≤ ± 5% tgδ change : ≤ 50% of nominal value at 1 kHz Insulation resistance : ≤ 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 Un
Protection	Polyester wrapping with epoxy resin fill
Flame retardant (IEC 384-1)	Standard execution: not flame retardant 4th digit code A On request flame retardant execution category C, 4thdigit code S
Leads	Tinned copper (medium lead content 5%)
Installation	Whatever Position
Life Expectancy	≥ 30.000 hours at U_{RMS}; ≥ 100.000 hours at Un
Failure quota	300 / 10^9 components hour
Vibration strength	DIN 40040 , Table 6 , Class V

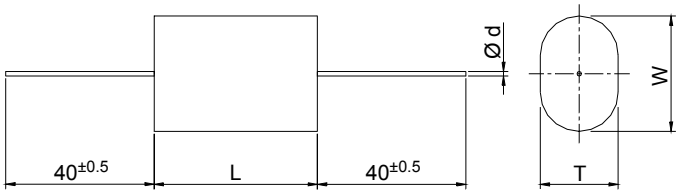


PEAK VOLTAGE TABLE

Un	850 V	1200 V	2000 V	3000 V
$\hat{U}_{MAX}$	1200 V	1600 V	2400 V	3500 V

GENERAL CHARACTERISTICS

Code	C	Un	U_{RMS}	dv/dt	I_{PKR}	ESR Max @100kHz	I_{RMS} 100kHz @ 70°C	Max Dimensions (mm)		
	µF	Vdc	Vac	V/µs	A	mΩ	A	D	L	d
C4CAMUB3100AA0J	0.1	850	450	450	45	16.6	5	10.5	33	0.8
C4CAMUB3150AA0J	0.15	850	450	450	68	11.5	7	12.5	33	0.8
C4CAMUC3220AA0J	0.22	850	450	450	99	8.1	9	15.5	33	1.0
C4CAMUC3330AA0J	0.33	850	450	450	149	5.8	9	18.5	33	1.0
C4CAMUC3470AA0J	0.47	850	450	450	212	4.6	9	21.5	33	1.0
C4CAMUC3680AA1J	0.68	850	450	300	204	5.1	9	21	44	1.0
C4CAMUD4100AA1J	1	850	450	300	300	3.8	12	25	44	1.2
C4CAMUD4150AA1J	1.5	850	450	300	450	3.1	12	30.5	44	1.2
C4CAMUD4200AA3J	2	850	450	200	400	3.8	12	28.5	58	1.2
C4CAMUD4220AA3J	2.2	850	450	200	440	3.7	12	29.5	58	1.2
C4CAMUD4250AA3J	2.5	850	450	200	500	3.5	12	31.5	58	1.2
C4CAPUB2470AA0J	0.047	1200	500	700	33	27.1	4	10	33	0.8
C4CAPUB2680AA0J	0.068	1200	500	700	48	19.1	5	12	33	0.8
C4CAPUB3100AA0J	0.1	1200	500	700	70	13.4	7	14	33	0.8
C4CAPUC3150AA0J	0.15	1200	500	700	105	9.2	9	17.5	33	1.0
C4CAPUC3220AA0J	0.22	1200	500	700	154	6.8	9	20.5	33	1.0
C4CAPUC3330AA1J	0.33	1200	500	450	149	7.2	9	20	44	1.0
C4CAPUC3470AA1J	0.47	1200	500	450	212	5.6	9	23	44	1.0
C4CAPUD3680AA1J	0.68	1200	500	450	306	4.2	12	27.5	44	1.2
C4CAPUD4100AA1J	1	1200	500	450	450	3.5	12	33	44	1.2
C4CAPUD4120AA3J	1.2	1200	500	275	330	4.5	12	29	58	1.2
C4CAPUD4150AA3J	1.5	1200	500	275	413	4	12	32	58	1.2
C4CAWUB2220AA0J	0.022	2000	630	1150	25	48.2	3	10.5	33	0.8
C4CAWUB2330AA0J	0.033	2000	630	1150	38	32.5	4	12.5	33	0.8
C4CAWUC2470AA0J	0.047	2000	630	1150	54	23	6	15	33	1.0
C4CAWUC2680AA0J	0.068	2000	630	1150	78	16.3	7	17.5	33	1.0
C4CAWUC3100AA0J	0.1	2000	630	1150	115	11.6	9	20.5	33	1.0
C4CAWUC3150AA1J	0.15	2000	630	700	105	11.3	9	19.5	44	1.0
C4CAWUD3220AA1J	0.22	2000	630	700	154	8	12	23.5	44	1.2
C4CAWUD3330AA1J	0.33	2000	630	700	231	5.9	12	28.5	44	1.2
C4CAWUD3470AA1J	0.47	2000	630	700	329	4.8	12	33.5	44	1.2
C4CAWUD3560AA3J	0.56	2000	630	400	224	6.1	12	29	58	1.2
C4CAWUD3680AA3J	0.68	2000	630	400	272	5.4	12	32	58	1.2
C4CAYUB1680AA0J	0.0068	3000	750	2100	14.5	132	2	10	33	0.8
C4CAYUB2100AA0J	0.01	3000	750	2100	21	90.3	3	12	33	0.8
C4CAYUC2150AA0J	0.015	3000	750	2100	32	60.5	4	14.5	33	1.0
C4CAYUC2220AA0J	0.022	3000	750	2100	46	41.6	5	17	33	1.0
C4CAYUC2330AA0J	0.033	3000	750	2100	69	28.3	6	20.5	33	1.0
C4CAYUC2470AA1J	0.047	3000	750	1250	59	25.7	7	19	44	1.0
C4CAYUC2680AA1J	0.068	3000	750	1250	85	18.3	9	22.5	44	1.0
C4CAYUD3100AA1J	0.1	3000	750	1250	125	12.8	12	27	44	1.2
C4CAYUD3150AA1J	0.15	3000	750	1250	188	9.2	12	32	44	1.2
C4CAYUD3220AA3J	0.22	3000	750	750	165	9.5	12	31	58	1.2

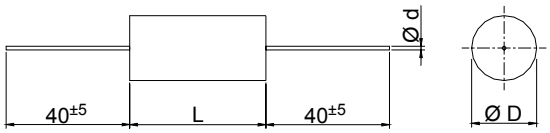


PEAK VOLTAGE TABLE

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

GENERAL CHARACTERISTICS

Code	C	Un	URMS	dv/dt	IPKR	ESR Max @ 100kHz	IRMS 100kHz @70°	MAX DIMENSIONS (mm)			
	µF	Vdc	Vac	V/µs	A	mΩ	A	T	W	L	d
C4HAMUB3100AA0J	0.1	850	450	450	45	16.7	5	8	12	33	0.8
C4HAMUB3150AA0J	0.15	850	450	450	68	11.5	6	10	14	33	0.8
C4HAMUC3220AA0J	0.22	850	450	450	99	8.1	9	11	17.5	33	1.0
C4HAMUC3330AA0J	0.33	850	450	450	149	5.8	9	14.5	20.5	33	1.0
C4HAMUC3680AA1J	0.68	850	450	300	204	5.1	9	17	23	44	1.0
C4HAMUD4100AA3J	1	850	450	190	190	6.1	12	16.5	22.5	58	1.2
C4HAPUB2470AA0J	0.047	1200	500	700	33	27.2	4	7.5	11.5	33	0.8
C4HAPUB2680AA0J	0.068	1200	500	700	48	19.1	5	9.5	13.5	33	0.8
C4HAPUB3100AA0J	0.1	1200	500	700	70	13.5	6	11.5	15.5	33	0.8
C4HAPUC3150AA0J	0.15	1200	500	700	105	9.2	9	13	19.5	33	1.0
C4HAPUC3220AA0J	0.22	1200	500	700	154	6.8	9	16.5	22.5	33	1.0
C4HAPUC3330AA1J	0.33	1200	500	450	149	7.2	9	15.5	22	44	1.0
C4HAPUC3470AA1J	0.47	1200	500	450	212	5.6	9	19	25.5	44	1.0
C4HAPUD3680AA3J	0.68	1200	500	270	184	6.6	12	18	24	58	1.2
C4HAWUB2220AA0J	0.022	2000	630	1150	25	48.3	3	8	11.5	33	0.8
C4HAWUB2330AA0J	0.033	2000	630	1150	38	32.6	4	9.5	13.5	33	0.8
C4HAWUC2470AA0J	0.047	2000	630	1150	54	23.1	5	10.5	17	33	1.0
C4HAWUC2680AA0J	0.068	2000	630	1150	78	16.3	7	13	19.5	33	1.0
C4HAWUC3100AA0J	0.1	2000	630	1150	115	11.6	9	16.5	22.5	33	1.0
C4HAWUC3150AA1J	0.15	2000	630	700	105	11.3	9	15.5	22	44	1.0
C4HAWUD3220AA1J	0.22	2000	630	700	154	8	12	19.5	25.5	44	1.2
C4HAWUD3330AA3J	0.33	2000	630	410	135	9.2	12	18.5	25	58	1.2
C4HAYUB1680AA0J	0.0068	3000	750	2100	14.5	133	2	7.5	11.5	33	0.8
C4HAYUB2100AA0J	0.001	3000	750	2100	21	90.5	2	9	13	33	0.8
C4HAYUC2150AA0J	0.015	3000	750	2100	32	60.6	3	10.5	16.5	33	1.0
C4HAYUC2220AA0J	0.022	3000	750	2100	46	41.7	4	13	19	33	1.0
C4HAYUC2330AA0J	0.033	3000	750	2100	69	28.3	5	16	22.5	33	1.0
C4HAYUC2470AA1J	0.047	3000	750	1250	59	25.7	6	15	21	44	1.0
C4HAYUC2680AA1J	0.068	3000	750	1250	85	18.3	9	18	24.5	44	1.0
C4HAYUD3100AA3J	0.1	3000	750	750	75	18.9	10	17	23.5	58	1.2

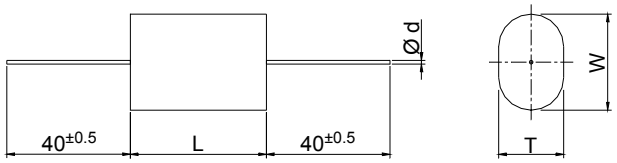


PEAK VOLTAGE TABLE

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

GENERAL CHARACTERISTICS

Code	C	Un	URMS	dv/dt	IPKR	ESR Max @ 100kHz	IRMS 100kHz @ 70°C	MAX DIMENSIONS (mm)		
	µF	Vdc	Vac	V/µs	A	mΩ	A	D	L	d
C4GADUB4100AA4J	1	250	160	60	60	6.7	6	11	20.5	0.8
C4GADUB4220AA0J	2.2	250	160	30	66	10.9	6	11.5	33	0.8
C4GADUB4250AA0J	2.5	250	160	30	75	9.8	7	12	33	0.8
C4GADUC4300AA0J	3	250	160	30	90	8.2	8	13.5	33	1.0
C4GADUC4330AA0J	3.3	250	160	30	99	7.5	9	14	33	1.0
C4GADUC4400AA0J	4	250	160	30	120	6.4	9	15.5	33	1.0
C4GADUC4500AA0J	5	250	160	30	150	5.4	9	17	33	1.0
C4GADUC4680AA0J	6.8	250	160	30	204	4.4	9	19.5	33	1.0
G4GADUC5100AA1J	10	250	160	20	200	5.3	9	20	44	1.0
C4GADUD5150AA1J	15	250	160	20	300	3.9	12	24.5	44	1.2
C4GADUD5200AA1J	20	250	160	20	400	3.4	12	28	44	1.2
C4GADUD5250AA1J	25	250	160	20	500	3.1	12	31	44	1.2
C4GADUD5300AA3J	30	250	160	15	450	4	12	29	58	1.2
C4GADUD5400AA3J	40	250	160	15	600	3.5	12	33.5	58	1.2
C4GAFUB3470AA5J	0.47	400	250	60	28	11.1	6	9.5	28	0.8
C4GAFUB3680AA0J	0.68	400	250	45	31	11.7	6	10	33	0.8
C4GAFUB4100AA0J	1	400	250	45	45	8.3	7	12	33	0.8
C4GAFUC4150AA0J	1.5	400	250	45	68	5.8	9	14.5	33	1.0
C4GAFUC4200AA0J	2	400	250	45	90	4.7	9	16.5	33	1.0
C4GAFUC4220AA0J	2.2	400	250	45	99	4.4	9	17.5	33	1.0
C4GAFUC4250AA0J	2.5	400	250	45	113	4	9	18.5	33	1.0
C4GAFUC4300AA0J	3	400	250	45	135	3.6	9	20	33	1.0
C4GAFUC4330AA1J	3.3	400	250	30	99	5.2	9	18	44	1.0
C4GAFUC4400AA1J	4	400	250	30	120	4.6	9	19.5	44	1.0
C4GAFUC4470AA1J	4.7	400	250	30	141	4.1	9	21	44	1.0
C4GAFUC4500AA1J	5	400	250	30	150	4	9	21.5	44	1.0
C4GAFUD4680AA1J	6.8	400	250	30	204	3.2	12	25	44	1.2
C4GAFUD5100AA1J	10	400	250	30	300	2.7	12	30	44	1.2
C4GAFUD5150AA3J	15	400	250	20	300	4.8	12	31.5	58	1.2
C4GAFUD5200AA3J	20	400	250	20	400	4	12	35	58	1.2
C4GAHUB3470AA0J	0.47	600	330	60	28	13.1	6	11	33	0.8
C4GAHUB3680AA0J	0.68	600	330	60	41	9.4	7	13	33	0.8
C4GAHUC4100AA0J	1	600	330	60	60	6.6	9	15.5	33	1.0
C4GAHUC4200AA1J	2	600	330	40	80	6.3	9	18.5	44	1.0
C4GAHUC4220AA1J	2.2	600	330	40	88	5.2	9	19.5	44	1.0
C4GAHUC4300AA1J	3	600	330	40	120	4.8	9	22.5	44	1.0
C4GAHUD4330AA1J	3.3	600	330	40	132	4.3	12	23.5	44	1.2
C4GAHUD4400AA1J	4	600	330	40	160	3.8	12	25.5	44	1.2
C4GAHUD4470AA1J	4.7	600	330	40	188	3.5	12	27.5	44	1.2
C4GAHUD4500AA1J	5	600	330	40	200	3.4	12	28.5	44	1.2
C4GAHUD4680AA3J	6.8	600	330	30	204	6.8	12	28.5	58	1.2
C4GAHUD5100AA3J	10	600	330	30	300	5.3	12	34.5	58	1.2
C4GAJUC3470AA0J	0.47	700	400	80	38	9.5	8	14.5	33	1.0
C4GAHUB3680AA0J	0.68	700	400	80	55	7	9	17	33	1.0
C4GAJUC4100AA0J	1	700	400	80	80	5.2	9	20.5	33	1.0
C4GAJUC4150AA1J	1.5	700	400	60	90	6.4	9	20.5	44	1.0
C4GAJUD4200AA1J	2	700	400	60	120	5	12	23.5	44	1.2
C4GAJUD4220AA1J	2.2	700	400	60	132	4.7	12	24.5	44	1.2
C4GAJUD4300AA1J	3	700	400	60	180	3.9	12	28.5	44	1.2
C4GAJUD4330AA1J	3.3	700	400	60	198	3.7	12	30	44	1.2
C4GAJUD4400AA1J	4	700	400	60	240	3.5	12	33	44	1.2
C4GAJUD4470AA3J	4.7	700	400	40	188	7.9	12	29.5	58	1.2
C4GAJUD4500AA3J	5	700	400	40	200	7.5	12	30.5	58	1.2
C4GAJUD4680AA3J	6.8	700	400	40	272	6.1	12	35	58	1.2
C4GAMUB3150AA0J	0.15	850	450	210	32	14.5	5	10	33	0.8
C4GAMUB3220AA0J	0.22	850	450	210	46	10.3	7	12	33	0.8
C4GAMUC3330AA0J	0.33	850	450	210	69	7.1	9	14.5	33	1.0
C4GAMUC3470AA0J	0.47	850	450	210	99	5.4	9	17	33	1.0
C4GAMUC3680AA0J	0.68	850	450	210	143	4.2	9	20.5	33	1.0
C4GAMUC4100AA1J	1	850	450	140	140	4.7	9	20.5	44	1.0
C4GAMUD4150AA1J	1.5	850	450	140	210	3.5	12	24.5	44	1.2
C4GAMUD4200AA1J	2	850	450	140	280	3.1	12	28.5	44	1.2
C4GAMUD4220AA1J	2.2	850	450	140	308	3	12	29.5	44	1.2
C4GAMUD4250AA1J	2.5	850	450	140	350	2.9	12	31.5	44	1.2
C4GAMUD4300AA3J	3	850	450	90	270	3.6	12	28	58	1.2
C4GAMUD4330AA3J	3.3	850	450	90	297	3.5	12	29.5	58	1.2
C4GAMUD4400AA3J	4	850	450	90	360	3.2	12	32.5	58	1.2



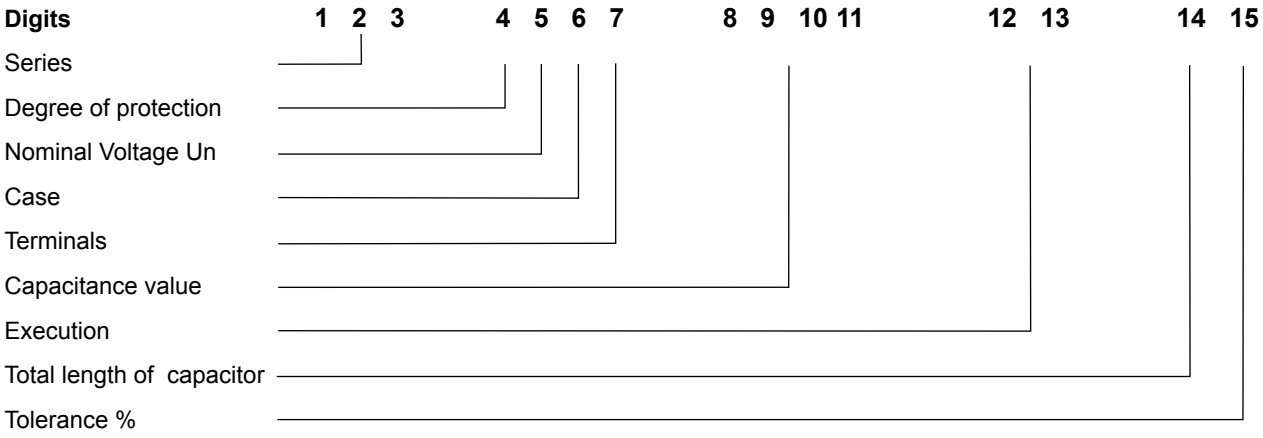
PEAK VOLTAGE TABLE

Un	250 V	400 V	600 V	700 V	850 V
$\hat{U}_{MAX}$	400 V	600 V	800 V	1000 V	1200 V

GENERAL CHARACTERISTICS

Code	C	Un	URMS	dv/dt	IPKR	ESR Max @ 100kHz	IRMS 100kHz @ 70°C	MAX DIMENSIONS (mm)			
	µF	Vdc	Vac	V/µs	A	mΩ	A	T	W	L	d
C4MADUB4100AA4J	1	250	160	60	60	6.7	6	8.5	12.5	20.5	0.8
C4MADUB4220AA0J	2.2	250	160	30	66	11	6	9	13	33	0.8
C4MADUB4250AA0J	2.5	250	160	30	75	9.9	7	9.5	13.5	33	0.8
C4MADUC4300AA0J	3	250	160	30	90	8.2	8	9.5	16	33	1.0
C4MADUC4330AA0J	3.3	250	160	30	99	7.6	9	10	16.5	33	1.0
C4MADUC4400AA0J	4	250	160	30	120	6.5	9	11.5	17.5	33	1.0
C4MADUC4500AA0J	5	250	160	30	150	5.4	9	13	19.5	33	1.0
C4MADUC4680AA0J	6.8	250	160	30	204	4.4	9	15.5	22	33	1.0
C4MADUC5100AA1J	10	250	160	20	200	5.4	9	16	22.5	44	1.0
C4MADUD5150AA3J	15	250	160	15	225	6.4	12	17	23	58	1.2
C4MADUD5200AA3J	20	250	160	15	300	5.1	12	20	26.5	58	1.2
C4MAFUB3470AA5J	0.47	400	250	60	28	11.2	5	7	11	28	0.8
C4MAFUB3680AA0J	0.68	400	250	45	31	11.8	6	7.5	11.5	33	0.8
C4MAFUB4100AA0J	1	400	250	45	45	8.4	7	10	14	33	0.8
C4MAFUC4150AA0J	1.5	400	250	45	68	5.8	9	11	17.5	33	1.0
C4MAFUC4200AA0J	2	400	250	45	90	4.7	9	13	19.5	33	1.0
C4MAFUC4220AA0J	2.2	400	250	45	99	4.4	9	13.5	19.5	33	1.0
C4MAFUC4250AA0J	2.5	400	250	45	113	4	9	14.5	20.5	33	1.0
C4MAFUC4300AA0J	3	400	250	45	135	3.6	9	16	22.5	33	1.0
C4MAFUC4330AA1J	3.3	400	250	30	99	5.2	9	14	20.5	44	1.0
C4MAFUC4400AA1J	4	400	250	30	120	4.6	9	15.5	22	44	1.0
C4MAFUC4470AA1J	4.7	400	250	30	141	4.2	9	17	23.5	44	1.0
C4MAFUC4500AA1J	5	400	250	30	150	4	9	18	24	44	1.0
C4MAFUD4680AA3J	6.8	400	250	20	136	8.5	12	17.5	24	58	1.2
C4MAHUB3470AA0J	0.47	600	330	60	28	13.2	6	8.5	12.5	33	0.8
C4MAHUB3680AA0J	0.68	600	330	60	41	9.5	7	10.5	14.5	33	0.8
C4MAHUC4100AA0J	1	600	330	60	60	6.7	9	12	18	33	1.0
C4MAHUC4200AA1J	2	600	330	40	80	6.4	9	14.5	21	44	1.0
C4MAHUC4220AA1J	2.2	600	330	40	88	5.9	9	15.5	22	44	1.0
C4MAHUC4300AA1J	3	600	330	40	120	4.8	9	18.5	25	44	1.0
C4MAHUD4330AA3J	3.3	600	330	30	99	12.6	11	16.5	22.5	58	1.2
C4MAHUD4400AA3J	4	600	330	30	120	10.6	12	18	24.5	58	1.2
C4MAHUD4470AA3J	4.7	600	330	30	141	9.3	12	20	26	58	1.2
C4MAJUC3470AA0J	0.47	700	400	80	38	9.6	8	10.5	17	33	1.0
C4MAJUC3680AA0J	0.68	700	400	80	55	7	9	13.5	19.5	33	1.0
C4MAJUC4100AA0J	1	700	400	80	80	5.3	9	16.5	23	33	1.0
C4MAJUC4150AA1J	1.5	700	400	60	90	6.5	9	16.5	23	44	1.0
C4MAJUD4200AA3J	2	700	400	40	80	16.4	10	16	22	58	1.2
C4MAJUD4220AA3J	2.2	700	400	40	88	15	11	16.5	23	58	1.2
C4MAJUD4300AA3J	3	700	400	40	120	11.4	12	20	26	58	1.2

ORDERING CODES - Axial Series C4C, C4G, C4H, C4M



Digits 1-2-3: Series

C4C	Axials cylindrical MKP capacitors for **snubber** applications
C4G	Axials cylindrical MKP capacitors for **switching** applications
C4H	Axials ovoidal MKP capacitors for **snubber** applications
C4M	Axials ovoidal MKP capacitors for **switching** application

Digit 4: Degree of protection:

A	Standard execution **not flame retardant**
S	Standard execution **flame retardant**

Digit 5: Nominal D.C. Voltage Un

A = 550 Vdc	B = 160 Vdc	C = 200 Vdc	D = 250 Vdc
E = 300 Vdc	F = 400 Vdc	G = 450 Vdc	H = 600 Vdc
I = 630 Vdc	J = 700 Vdc	K = 750 Vdc	L = 500 Vdc
M = 850 Vdc	N = 1000 Vdc	P = 1200 Vdc	R = 1400 Vdc
S = 1500 Vdc	T = 1600 Vdc	U = 1700 Vdc	V = 1800 Vdc
W = 2000 Vdc	X = 2400 Vdc	Y = 3000 Vdc	Z = Special voltage

Digit 6: Case

0	Capacitor unprotected.
U	Capacitor protected with tape and resin.
Z	Capacitor protected with a special executions.

Digit 7: Terminals

0	Without terminals	A	Tinned copper wire D 0.6 mm
B	Tinned copper wire D 0.8 mm	C	Tinned copper wire D 1.0 mm
D	Tinned copper wire D 1.2 mm	Z	Special terminals

Digits 8-9-10-11: Capacitance

The nominal capacitance is exponential: the digits 9, 10, 11 show the first 3 significative numbers of capacitance, the digit 8 defines the exponent on 10 base to obtain the nominal capacitance in pF, example ⇨ *2330 = 0,033 µF* ⇨ 330 x 10^2 ⇨ 330 x 100 ⇨ 33000 pF = 0,033 µF

Digits 12-13: Execution

The standard execution is coded as AA, all the others are not standard.

Digit 14: Total Length of Capacitor

0 = H max 33 mm	(tape H=31.5 mm)	1 = H max 44 mm	(tape H=42 mm)
2 = H max 46 mm	(tape H=44 mm)	3 = H max 58 mm	(tape H=56 mm)
4 = H max 20.5 mm	(tape H = 19 mm)	5 = H max 28 mm	(tape H=26.5 mm)
6 = H max 38 mm	(tape H = 36 mm)		

Digit 15: Tolerance

According to IEC 1968, this code defines the tolerance on nominal capacitance of the capacitor.

J = ± 5% K = ± 10% X = Special tolerance