Plastic Case Power Film Capacitors, Axial Threaded Female Terminals

C4DC, 850 – 1,400 VDC/500 – 700 VAC, for GTO Snubbing

Overview

The C4DC capacitor is a polypropylene metallized film capacitor with a cylindrical, plastic box-type design filled with resin, and uses hole axial terminals.

Applications

Typical applications include snubber, clamping, resonnance, and pulse.

Benefits

- Strong mounting
- High ripple current
- Medium frequency tuning
- Low inductance
- Self-healing

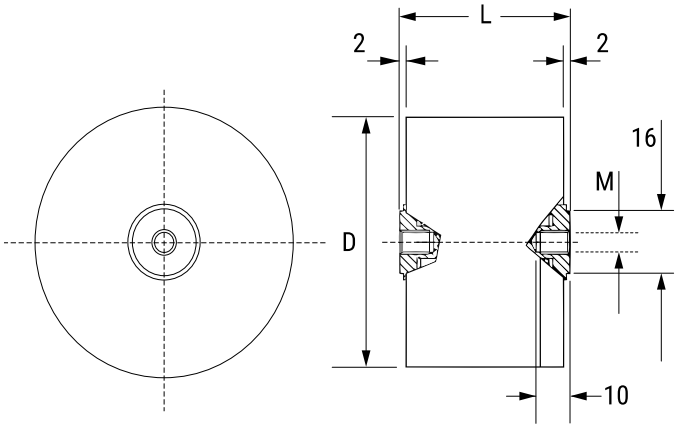


Part Number System

C4DC	M	A	Q	4150	AA0	J
Series	Rated Voltage (VDC)	Case	Terminal Style	Capacitance Code (pF)	Internal Code	Tolerance
C4DC = MKP, GTO Application	M = 850 N = 1000 R = 1400	A = Axial plastic case	Q = M8 Threaded Inserts	Digits 2 – 4 indicate the first three digits of the capacitance value. First digit indicates the number of zeros to be added.	AA0 = Standard	J = 5% K = 10%

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Dimensions – Millimeters



D	L	Terminations (T)
Nominal	Nominal	
60	51	M8 x 10
60	64	M8 x 10
72	51	M8 x 10
72	64	M8 x 10
80	51	M8 x 10
80	64	M8 x 10
90	51	M8 x 10
90	64	M8 x 10

Qualifications

Reference Standards	VDE 0560, IEC 61071, EN 61071

Performance Characteristics

IEC Climatic Category	40/85/56
Temperature Range	−40°C to +85°C
Capacitance Tolerance	±5%, ±10%
Peak Non-Repetitive Maximun Current	I_{PKR} x 1.5
Test Voltage Terminal to Case (V_{TC})	3 kV – 50 Hz for 60 seconds
Dissipation Factor (DF)	≤ 3 x 10^{-4} at 1 kHz and 20°C
Acceptable Relative Humidity	Annual average ≤ 70% ≤ 85% for ≤ 30 intermittant days annually Dewing not admissible
Case Components	Solvent-resistant plastic case with resin sealing
Terminations	Tinned brass
Maximum Tightening Torque	10 Nm (M8)
Installation	Any position
Life Expectancy	≥ 100,000 hours at V_n
Failure Quota	300/10^9 components per hour

Environmental Compliance

As a leading global supplier of electronic components and an environmentally conscious company, KEMET continually aspires to improve the environmental effects of our manufacturing processes and our finished electronic components.

In Europe (RoHS Directive) and in some other geographical areas such as China (China RoHS), legislation has been enacted to prevent or otherwise limit the use of certain hazardous materials, including lead (Pb), in electronic equipment. KEMET monitors legislation globally to ensure compliance and endeavors to adjust our manufacturing processes and/or electronic components as may be required by applicable law.

For military, medical, automotive, and some commercial applications, the use of lead (Pb) in the termination is necessary and/or required by design. KEMET is committed to communicating RoHS compliance to our customers. Information related to RoHS compliance will be provided in data sheets and using specific identifiers on the packaging labels.

All KEMET power film capacitors are RoHS compliant.

Table 1 – Ratings & Part Number Reference

Cap Value (µF)	VDC	VAC	Peak VDC	Surge VDC	Maximum Dimensions (mm)		Ripple Current	Peak Current	ESR (Max)	Thermal Resistance	dV/dt (V/µs)	Packaging Quantity	Part Number
					D	L	100 kHz 70°C (A)	(A)	100 kHz (mΩ)	(°C/W)			
1.5	850	500	1,200	1,300	60	51	40	675	1.7	5.4	450	48	C4DCMAQ4150AA0(1)
2	850	500	1,200	1,300	60	51	43	900	1.5	5.5	450	48	C4DCMAQ4200AA0(1)
3	850	500	1,200	1,300	72	51	53	1,350	1.2	4.5	450	30	C4DCMAQ4300AA0(1)
3.5	850	500	1,200	1,300	72	51	55	1,575	1.1	4.4	450	30	C4DCMAQ4350AA0(1)
4	850	500	1,200	1,300	80	51	59	1,800	1.1	3.8	450	27	C4DCMAQ4400AA0(1)
5	850	500	1,200	1,300	80	51	62	2,250	1.1	3.7	450	27	C4DCMAQ4500AA0(1)
6	850	500	1,200	1,300	90	51	69	2,700	1	3.1	450	18	C4DCMAQ4600AA0(1)
1	1,000	600	1,400	1,500	60	51	36	525	2.1	5.5	525	48	C4DCNAQ4100AA0(1)
2	1,000	600	1,400	1,500	72	51	50	1,050	1.4	4.4	525	30	C4DCNAQ4200AA0(1)
2.5	1,000	600	1,400	1,500	80	51	56	1,312	1.3	3.6	525	27	C4DCNAQ4250AA0(1)
3	1,000	600	1,400	1,500	80	51	58	1,575	1.2	3.7	525	27	C4DCNAQ4300AA0(1)
3.5	1,000	600	1,400	1,500	90	51	65	1,837	1.1	3.1	525	18	C4DCNAQ4350AA0(1)
4	1,000	600	1,400	1,500	90	51	66	2,100	1.1	3.1	525	18	C4DCNAQ4400AA0(1)
0.5	1,400	700	2,000	2,150	60	51	29	315	3.3	5.4	630	48	C4DCRAQ3500AA0(1)
0.8	1,400	700	2,000	2,150	60	51	33	315	2.8	5.3	630	48	C4DCRAQ3800AA0(1)
1	1,400	700	2,000	2,150	60	51	38	630	2	5.2	630	48	C4DCRAQ4100AA0(1)
1	1,400	700	2,000	2,150	90	51	70	1,000	0.6	1.9	1,000	18	C4DCRAQ4100ZA0(1)
1.5	1,400	700	2,000	2,150	60	64	38	570	2.2	4.7	380	32	C4DCRAQ4150AA0(1)
2	1,400	700	2,000	2,150	72	64	46	760	1.8	3.9	380	30	C4DCRAQ4200AA0(1)
2.5	1,400	700	2,000	2,150	72	64	50	950	1.6	3.8	380	20	C4DCRAQ4250AA0(1)
3	1,400	700	2,000	2,150	80	64	56	1,140	1.5	3.2	380	18	C4DCRAQ4300AA0(1)
4	1,400	700	2,000	2,150	90	64	64	1,520	1.3	2.8	380	12	C4DCRAQ4400AA0(1)
5	1,400	700	2,000	2,150	90	64	67	1,900	1.2	2.8	380	12	C4DCRAQ4500AA0(1)
Capacitance Value (µF)	VDC	VAC	Peak VDC	Surge VDC	D (mm)	L (mm)	Ripple Current	Peak Current	ESR	Thermal Resistance	dV/dt (V/µs)	Packaging Quantity	Part Number

(1) K = ±10%, J = ±5%

Materials & Environment

The selection of raw materials that KEMET uses for the production of its electronic components is the result of extensive experience. KEMET directs specific attention toward environmental protection. KEMET selects its suppliers according to ISO 9001 standards and performs statistical analyses on raw materials before acceptance for use in manufacturing our electronic components. All materials are, to the best of KEMET's knowledge, non-toxic and free from cadmium; mercury; chrome and compounds; polychlorine triphenyl (PCB); bromide and chlorinedioxins bromurate clorurate; CFC and HCFC; and asbestos.

Dissipation Factor

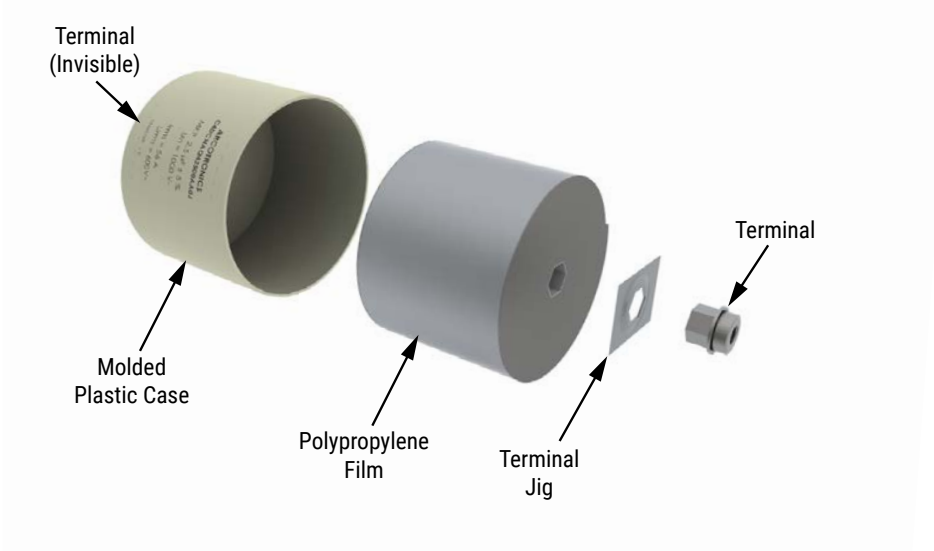
Dissipation factor is a complex function involved with capacitor inefficiency. The tgδ may vary up and down with increased temperature. For more information, refer to Performance Characteristics.

Sealing

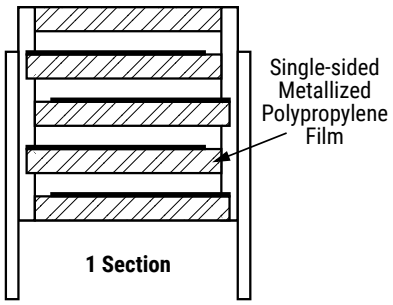
Hermetically Sealed Capacitors
As the temperature increases, the pressure inside the capacitor increases. If the internal pressure is high enough, it can cause a breach in the capacitor. Such a breach can result in leakage, impregnation, filling fluid, or moisture susceptibility.

Barometric Pressure
The altitude at which hermetically sealed capacitors are operated controls the capacitor's voltage rating. As the barometric pressure decreases, the susceptibility to terminal arc-over increases. Non-hermetic capacitors can be affected by internal stresses due to pressure changes. These effects can be in the form of capacitance changes, dielectric arc-over, and/or low insulation resistance. Altitude can also affect heat transfer. Heat that is generated in an operation cannot be dissipated properly, and high RI^2 losses and eventual failure can result.

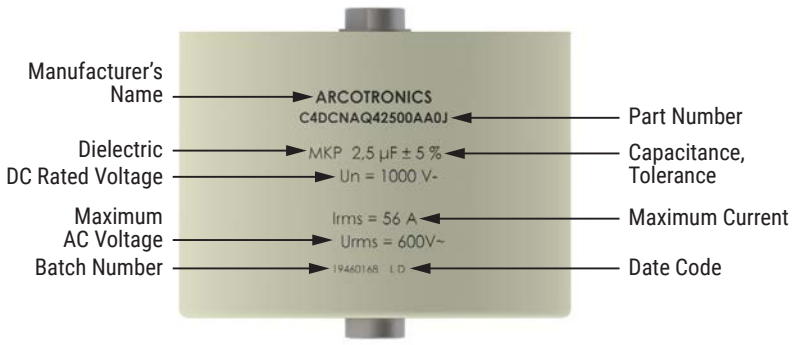
Construction



Winding Scheme



Marking



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