C44B, 1,200 – 2,400 VDC/500 – 1,000 VAC, for General Purpose & Snubbing

Overview

The C44B capacitor is a polypropylene metallized film capacitor with a cylindrical, aluminium can-type design filled with resin. It uses screw or faston terminals and a plastic insulator.

Applications

Typical applications include snubber, clamping, resonance, AC harmonic filtering, and pulse.

Benefits

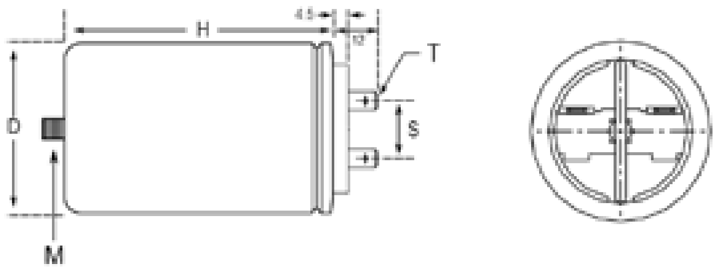
- High contact reliability
- High peak current
- Self-healing

Part Number System

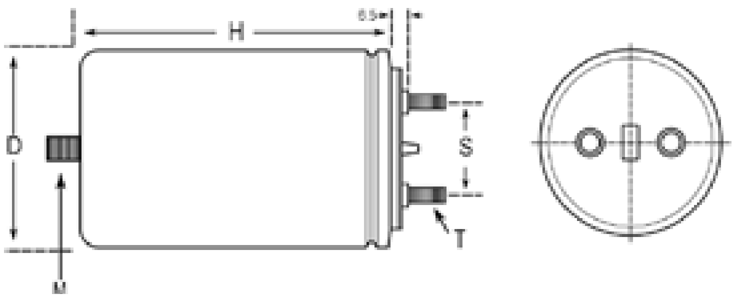
C44B	P	F	1	3100	ZB0	J
Series	Rated Voltage (VDC)	Case and Fixing Bolt Code	Terminal Style	Capacitance Code (pF)	Internal Code	Tolerance
C44B = MKP, Snubber Application	P = 1,200 W = 2,000 X = 2,400	F = Cylindrical aluminum case with M8 bolt G = Cylindrical aluminum case with M12 bolt	P = M6 Threaded posts 1 = Single faston 2.8 x 0.8 mm	Digits 2 – 4 indicate the first three digits of the capacitance value. First digit indicates the number of zeros to be added.	ZA0, ZB0, ZC0 = Standard	J = 5% K = 10%

Dimensions – Millimeters

Single Fast-On (Style 1)



Threaded Posts (Style 2)



Style	D	H	S	Terminations (T)	Mounting Stud (M)
	±0.5	±2	±0.5		
1	25	60	10	2.8 x 0.8	M8 x 10
	35	60	10	2.8 x 0.8	M8 x 10
	40	60	10	2.8 x 0.8	M8 x 10
	45	60	10	2.8 x 0.8	M8 x10
2	45	78	22.3	M6 x 13	M8 x10
	45	105	22.3	M6 x 13	M8 x10
	50	100	22.3	M6 x 13	M8 x10
	50	135	22.3	M6 x 13	M8 x10
	55	78	22.3	M6 x 13	M12 x 12.5
	55	200	22.3	M6 x 13	M12 x 12.5
	65	175	22.3	M6 x 13	M12 x 12.5
	65	200	22.3	M6 x 13	M12 x 12.5

Mechanical Characteristics

Case	Brass Screw Terminals			Mounting Stud		
D	Driving Torque Nm	Creepage Distance mm	Clearance In Air mm	M	L	Driving Torque Nm
45	4	14	10	M8	10	6
50	4	14	10	M8	10	6
55	4	16	10	M12	12.5	10
60	4	18	10	M12	12.5	10
65	4	20	10	M12	12.5	10
70	4	22	10	M12	12.5	10

Qualification

Reference Standards	VDE 0560, IEC 071, EN 61071
Application Class (DIN 40040)	GPD/LS

Performance Characteristics

IEC Climatic Category	40/85/21
Temperature Range	−40°C to + 85°C
Maximum Permissible Ambient Temperature	+70°C
Capacitance Tolerance	±5%, ±10%
Peak Non-Repettive Maximun Current	I_{PKR} x 1.5
Test Voltage Terminal to Case (V_{TT})	1.5 V_{RMS} for 60 seconds
Test Voltage Terminal to Case (V_{TC})	3 kV – 50 Hz for 60 seconds
Rated Insulation Voltage (V_i)	700 V – 50 Hz Insulation Group B (VDE 0110 Part 1)
Dissipation Factor (DF)	≤ 5 x 10^{-4} at 1 kHz and 20°C
Acceptable Relative Humidity	Annual average ≤ 95% ≤ 100% for ≤ 30 intermittant days annually Dewing not admissible
Degree of Protection	IP00
Capacitance Deviation in the Operating Temperature Range of −40°C to +85°C	±1.5 maximum on capacitance value measured at +20°C
Change of Capacitance vs. Operating Time	−3% after 30,000 hours at V_{RMS} or after 100,000 hours at V_n
Case Components	Aluminum case plus plastic insulating deck with flame retardant execution (UL 94 V1)
Terminations	Tinned brass fastons or screws
Installation	Any position
Life Expectancy	≥ 30,000 hours at V_{RMS}, ≥ 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	Maximum Dimensions (mm)		Ripple Current	Peak Current	ESR (Typical)	dV/dt (V/µs)	Packaging Quantity	Part Number
				D	H	(A)	(A)	(mΩ)			
0.1	1200	500	1600	25	60	4	50	25	500	210	C44BPF13100ZB0(1)
0.22	1200	500	1600	25	60	5	120	23	500	210	C44BPF13220ZB0(1)
0.33	1200	500	1600	25	60	6	165	16	500	210	C44BPF13330ZB0(1)
0.47	1200	500	1600	25	60	6	235	10	500	210	C44BPF13470ZB0(1)
0.68	1200	500	1600	35	60	6	340	9	500	104	C44BPF13680ZB0(1)
1	1200	500	1600	35	60	6	500	4	500	104	C44BPF14100ZB0(1)
1.5	1200	500	1600	45	60	6	750	3	500	60	C44BPF14150ZA0(1)
0.047	2000	630	2400	25	60	4	35	30	750	210	C44BWF12470ZA0(1)
0.1	2000	630	2400	25	60	5	75	27	750	210	C44BWF13100ZA0(1)
0.15	2000	630	2400	25	60	6	113	26	750	210	C44BWF13150ZA0(1)
0.22	2000	630	2400	35	60	6	165	25	750	104	C44BWF13220ZA0(1)
0.33	2000	630	2400	35	60	6	250	20	750	104	C44BWF13330ZA0(1)
0.47	2000	630	2400	40	60	6	350	15	750	78	C44BWF13470ZA0(1)
0.68	2000	630	2400	45	60	6	510	10	750	60	C44BWF13680ZA0(1)
0.1	2400	1000	4000	45	78	5	50	–	500	60	C44BXFP3100ZA0(1)
0.22	2400	1000	4000	45	78	5	110	–	500	60	C44BXFP3220ZC0(1)
0.33	2400	1000	4000	55	78	6	165	–	500	40	C44BXGP3330ZC0(1)
0.47	2400	1000	4000	45	105	10	235	–	500	30	C44BXFP3470ZA0(1)
1	2400	1000	4000	50	100	15	500	–	500	20	C44BXFP4100ZB0(1)
1.5	2400	1000	4000	50	135	18	750	–	500	20	C44BXFP4150ZA0(1)
2	2400	1000	4000	55	200	22	1000	–	500	20	C44BXGP4200ZA0(1)
2.5	2400	1000	4000	55	200	22	1250	–	500	20	C44BXGP4250ZA0(1)
3	2400	1000	4000	65	175	25	1500	–	500	12	C44BXGP4300ZA0(1)
4	2400	1000	4000	65	200	25	2000	–	500	12	C44BXGP4400ZA0(1)
Capacitance Value (µF)	VDC	VAC	Peak VDC	Maximum Dimensions (mm)		Ripple Current	Peak Current	ESR (Typical)	dV/dt (V/µs)	Packaging Quantity	Part Number

(1) K = ±10%, J = ±5%
For Packaging quantities not listed contact KEMET.

Marking

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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.

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Although all product–related warnings, cautions and notes must be observed, the customer should not assume that all safety measures are indicted or that other measures may not be required.