

F5B Series Metallized Polyester Film with Integrated Suppression Diode, 18 – 63 VDC

Overview

The F5B Series is a metallized polyester film capacitor with an integrated suppression diode encapsulated in a thermosetting resin-filled plastic box with tinned wire leads. Box material is solvent resistant and flame retardant meeting the requirements of UL 94 V-0.

Applications

Typical applications include worldwide use as EMI/RFI and advanced transient voltage suppressors for automotive motors and other suppression applications such as engine blower fans, central locking systems, heating/air-conditioning blowers, electric sun roofs, electric window regulators, fuel/oil pumps, electric windshield wipers and electrically operated seats. This through-hole EMI/RFI suppression element is mainly used for automotive applications without a printed circuit board, e.g., motor suppression or mixed through-hole and surface mount printed circuit boards.

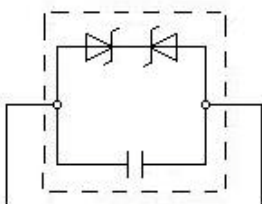
Benefits

- Low inductive MKT capacitors in parallel construction with a high power bidirectional transient voltage suppressor diode in a single case provide superior suppression results
- Approvals: AEC-Q200 (in progress), ISO7637
- Rated voltage: 18 – 63 VDC
- Capacitance range: 0.1 μ F to 2.2 μ F
- Lead spacing: 5 mm
- Capacitance tolerance: $\pm 10\%$, $\pm 20\%$
- Climatic category: 55/125/56, IEC 60068-1
- Tape and reel packaging in accordance with IEC 60286-2
- RoHS Compliant and lead-free terminations
- Operating temperature range: -55°C to $+125^{\circ}\text{C}$

Part Number System

F5B	H	C	4100	DQ	A	7	K
Series	Rated Voltage (VDC)	Lead Spacing (mm)	Capacitance Code (pF)	Lead and Packaging Code	Diode Breakdown Voltage V_{BR} @ 1 mA	Size Code	Capacitance Tolerance
Film Capacitor/ Diode Unit	B = 18 H = 25 J = 30 N = 45 C = 50 D = 63	C = 5	Digits 2 – 4 indicate the first three digits of the capacitance value. First digit indicates the number of zeros to be added.	See Ordering Options Table	See Diode Breakdown Voltage Table	See Dimension Table	K = $\pm 10\%$ M = $\pm 20\%$

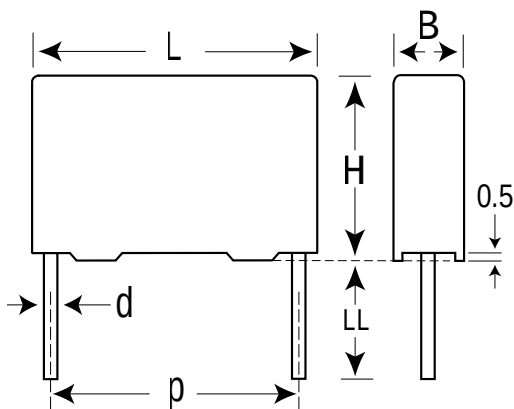
Circuit Diagram



Ordering Options Table

Lead Spacing Nominal (mm)	Type of Leads and Packaging	Lead Length (mm)	Lead and Packaging Code
5	Standard Lead and Packaging Options		
	Bulk (Bag) – Short Leads	4 +2/-0	AA
	Ammo Pack	$H_0 = 18.5 \pm 0.5$	DQ
	Other Lead and Packaging Options		
	Bulk (Bag) – Long Leads	17 +1/-2	Z3
	Tape & Reel (Standard Reel)	$H_0 = 18.5 \pm 0.5$	CK

Dimensions – Millimeters



Rated Capacitance μF	Size Code	p		B		H		L		d	
		Nominal	Tolerance	Nominal	Tolerance	Nominal	Tolerance	Nominal	Tolerance	Nominal	Tolerance
0.1 – 1.2	7	5	± 0.4	6.1	Maximum	11.1	Maximum	7.5	Maximum	0.6	± 0.05
1.5 – 2.2	8	5	± 0.4	7.3	Maximum	13.1	Maximum	7.5	Maximum	0.6	± 0.05
Note: See Ordering Options Table for lead length (LL) options.											

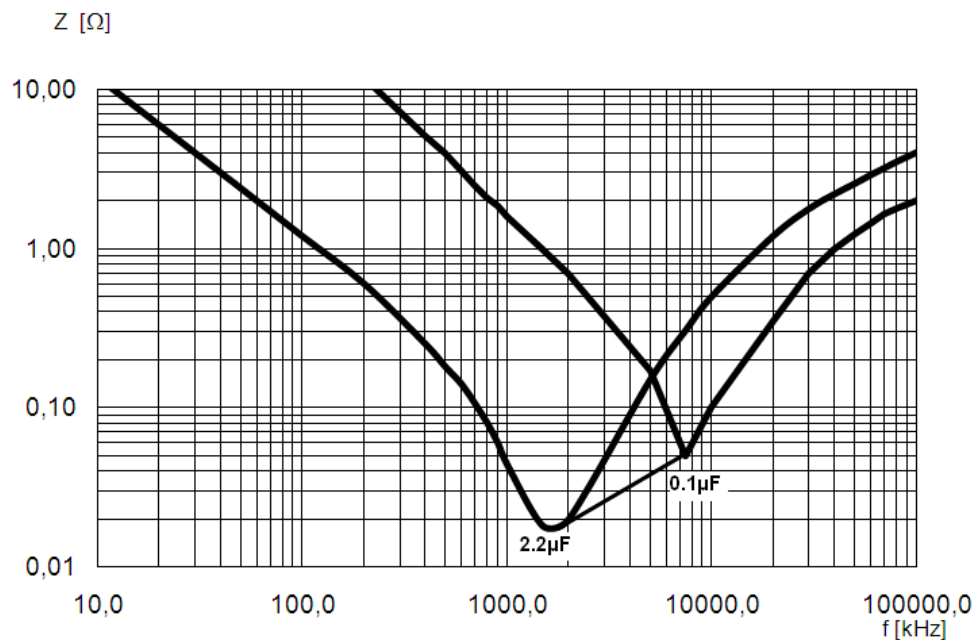
Diode Breakdown Voltage & Clamping Voltage Table

Part Number Digit 4		Part Number Digit 12		Clamping Voltage (Pulse 10/700 μ s)	
Letter	V _r (VDC)	Letter	V _{BR} (VDC)	V _c (V)	I _p (A)
B	18	B	22	28	24
B	18	E	27	33	31
H	25	A	30	36	20
H	25	C	33	40	19
J	30	D	36	43	18
J	30	I	39	46	17
J	30	N	44	52	16
N	45	B	53	62	14
C	50	C	68	78	12
D	63	C	78	89	11

Performance Characteristics

Rated Voltage	18 – 63 VDC (For temperature over 100°C a decreasing factor of 2% per degree has to be applied on the rated voltage V_R)
Capacitance Range	0.1 – 2.2 μF
Capacitance Tolerance	$\pm 10\%$, $\pm 20\%$
Temperature Range	-55°C to +125°C
Climatic Category	55/125/56, IEC 60068-1
Leakage Current	$\leq 50 \mu\text{A}$ at V_R
Approvals	AEC-Q200 (in progress), ISO 7637-2
Dissipation Factor	0.01 (1 kHz at 25°C $\pm$ 5°C)
Test Voltage Between Terminals	100 VDC
Insulation Resistance	$V_R < 24 \text{ V}$ 1M Ω @ 12 V, $V_R \geq 24 \text{ V}$ 1M Ω @ 24 V
Diode	600 W TVS diode, bidirectional
Peak Current Pulse	10/700 μs
Peak Current	See Diode Breakdown Voltage & Clamping Voltage Table

Impedance Graph



Environmental Test Data

Test	Conditions	Performance	
Damp Heat Steady State	+40°C ±2°C and 93% ±2% RH, 56 days	$\Delta C/C$	≤ 5%
		V_{BR} change	≤ 10%
		DF change	≤ 50 x 10 ⁻⁴ @ 1 kHz
		Leakage current at V_R	≤ 100 μA
Endurance	+125°C ±2°C/100°C ±2°C, 0.5 x V_R /1.0 x V_R , 1,000 hours	$\Delta C/C$	≤ 10%
		V_{BR} change	≤ 10%
		DF change	≤ 50 x 10 ⁻⁴ @ 1 kHz
		Leakage current at V_R	≤ 100 μA
Resistance to Soldering Heat	+260°C ±5°C, 10 ±1 second	$\Delta C/C$	≤ 3%
		V_{BR} change	≤ 5%
		DF change	≤ 30 x 10 ⁻⁴ @ 1 kHz
		Leakage current at V_R	≤ 50 μA
Peak Current Derating	Pulse 10/700 μs, 300 V_p , 100 cycles with alternating polarity, 120 seconds between each current peak	$\Delta C/C$	≤ 10%
		V_{BR} change	≤ 10%
		DF change	≤ 30 x 10 ⁻⁴ @ 1 kHz
		Leakage current at V_R	≤ 100 μA
Long Term Stability (After 2 Years)	-40°C to +80°C, ≤ 70% humidity	$\Delta C/C$	≤ 3%
		V_{BR} change	≤ 5%
		DF change	≤ 20 x 10 ⁻⁴ @ 1 kHz
		Leakage current at V_R	≤ 50 μA
Reliability Failure Criteria	Reference MIL HDB 217 +40°C ±2°C, 0.5 x V_R , ≤ 5 FIT	$\Delta C/C$	> 10%
		V_{BR} change	≤ 10%
		DF change	≤ 20 x 10 ⁻⁴ @ 1 kHz
		Leakage current at V_R	≤ 200 μA

Environmental Compliance

All KEMET EMI capacitors are RoHS Compliant.



RoHS Compliant

Table 1 – Ratings & Part Number Reference

Capacitance Value (µF)	VDC	Max Dimensions in mm			Lead Spacing (p)	Varistor Voltage (VDC)	New KEMET Part Number	Legacy Part Number
		B	H	L				
0.10	18	6.1	11.1	7.5	5.0	22	5BBC3100(1)B7(2)	F5BBC3100(1)B7(2)
0.10	18	6.1	11.1	7.5	5.0	27	5BBC3100(1)E7(2)	F5BBC3100(1)E7(2)
0.22	18	6.1	11.1	7.5	5.0	22	5BBC3220(1)B7(2)	F5BBC3220(1)B7(2)
0.22	18	6.1	11.1	7.5	5.0	27	5BBC3220(1)E7(2)	F5BBC3220(1)E7(2)
0.33	18	6.1	11.1	7.5	5.0	22	5BBC3330(1)B7(2)	F5BBC3330(1)B7(2)
0.33	18	6.1	11.1	7.5	5.0	27	5BBC3330(1)E7(2)	F5BBC3330(1)E7(2)
0.47	18	6.1	11.1	7.5	5.0	22	5BBC3470(1)B7(2)	F5BBC3470(1)B7(2)
0.47	18	6.1	11.1	7.5	5.0	27	5BBC3470(1)E7(2)	F5BBC3470(1)E7(2)
0.56	18	6.1	11.1	7.5	5.0	22	5BBC3560(1)B7(2)	F5BBC3560(1)B7(2)
0.56	18	6.1	11.1	7.5	5.0	27	5BBC3560(1)E7(2)	F5BBC3560(1)E7(2)
0.68	18	6.1	11.1	7.5	5.0	22	5BBC3680(1)B7(2)	F5BBC3680(1)B7(2)
0.68	18	6.1	11.1	7.5	5.0	27	5BBC3680(1)E7(2)	F5BBC3680(1)E7(2)
0.82	18	6.1	11.1	7.5	5.0	22	5BBC3820(1)B7(2)	F5BBC3820(1)B7(2)
0.82	18	6.1	11.1	7.5	5.0	27	5BBC3820(1)E7(2)	F5BBC3820(1)E7(2)
1.00	18	6.1	11.1	7.5	5.0	22	5BBC4100(1)B7(2)	F5BBC4100(1)B7(2)
1.00	18	6.1	11.1	7.5	5.0	27	5BBC4100(1)E7(2)	F5BBC4100(1)E7(2)
1.20	18	6.1	11.1	7.5	5.0	22	5BBC4120(1)B7(2)	F5BBC4120(1)B7(2)
1.20	18	6.1	11.1	7.5	5.0	27	5BBC4120(1)E7(2)	F5BBC4120(1)E7(2)
1.50	18	7.3	13.1	7.5	5.0	22	5BBC4150(1)B8(2)	F5BBC4150(1)B8(2)
1.50	18	7.3	13.1	7.5	5.0	27	5BBC4150(1)E8(2)	F5BBC4150(1)E8(2)
1.80	18	7.3	13.1	7.5	5.0	22	5BBC4180(1)B8(2)	F5BBC4180(1)B8(2)
1.80	18	7.3	13.1	7.5	5.0	27	5BBC4180(1)E8(2)	F5BBC4180(1)E8(2)
2.20	18	7.3	13.1	7.5	5.0	22	5BBC4220(1)B8(2)	F5BBC4220(1)B8(2)
2.20	18	7.3	13.1	7.5	5.0	27	5BBC4220(1)E8(2)	F5BBC4220(1)E8(2)
0.10	25	6.1	11.1	7.5	5.0	30	5BHC3100(1)A7(2)	F5BHC3100(1)A7(2)
0.10	25	6.1	11.1	7.5	5.0	33	5BHC3100(1)C7(2)	F5BHC3100(1)C7(2)
0.22	25	6.1	11.1	7.5	5.0	30	5BHC3220(1)A7(2)	F5BHC3220(1)A7(2)
0.22	25	6.1	11.1	7.5	5.0	33	5BHC3220(1)C7(2)	F5BHC3220(1)C7(2)
0.33	25	6.1	11.1	7.5	5.0	30	5BHC3330(1)A7(2)	F5BHC3330(1)A7(2)
0.33	25	6.1	11.1	7.5	5.0	33	5BHC3330(1)C7(2)	F5BHC3330(1)C7(2)
0.47	25	6.1	11.1	7.5	5.0	30	5BHC3470(1)A7(2)	F5BHC3470(1)A7(2)
0.47	25	6.1	11.1	7.5	5.0	33	5BHC3470(1)C7(2)	F5BHC3470(1)C7(2)
0.56	25	6.1	11.1	7.5	5.0	30	5BHC3560(1)A7(2)	F5BHC3560(1)A7(2)
0.56	25	6.1	11.1	7.5	5.0	33	5BHC3560(1)C7(2)	F5BHC3560(1)C7(2)
0.68	25	6.1	11.1	7.5	5.0	30	5BHC3680(1)A7(2)	F5BHC3680(1)A7(2)
0.68	25	6.1	11.1	7.5	5.0	33	5BHC3680(1)C7(2)	F5BHC3680(1)C7(2)
0.82	25	6.1	11.1	7.5	5.0	30	5BHC3820(1)A7(2)	F5BHC3820(1)A7(2)
0.82	25	6.1	11.1	7.5	5.0	33	5BHC3820(1)C7(2)	F5BHC3820(1)C7(2)
1.00	25	6.1	11.1	7.5	5.0	30	5BHC4100(1)A7(2)	F5BHC4100(1)A7(2)
1.00	25	6.1	11.1	7.5	5.0	33	5BHC4100(1)C7(2)	F5BHC4100(1)C7(2)
1.20	25	6.1	11.1	7.5	5.0	30	5BHC4120(1)A7(2)	F5BHC4120(1)A7(2)
1.20	25	6.1	11.1	7.5	5.0	33	5BHC4120(1)C7(2)	F5BHC4120(1)C7(2)
1.50	25	7.3	13.1	7.5	5.0	30	5BHC4150(1)A8(2)	F5BHC4150(1)A8(2)
1.50	25	7.3	13.1	7.5	5.0	33	5BHC4150(1)C8(2)	F5BHC4150(1)C8(2)
1.80	25	7.3	13.1	7.5	5.0	30	5BHC4180(1)A8(2)	F5BHC4180(1)A8(2)
1.80	25	7.3	13.1	7.5	5.0	33	5BHC4180(1)C8(2)	F5BHC4180(1)C8(2)
2.20	25	7.3	13.1	7.5	5.0	30	5BHC4220(1)A8(2)	F5BHC4220(1)A8(2)
2.20	25	7.3	13.1	7.5	5.0	33	5BHC4220(1)C8(2)	F5BHC4220(1)C8(2)
0.10	30	6.1	11.1	7.5	5.0	36	5BJC3100(1)D7(2)	F5BJC3100(1)D7(2)
0.10	30	6.1	11.1	7.5	5.0	39	5BJC3100(1)I7(2)	F5BJC3100(1)I7(2)
0.10	30	6.1	11.1	7.5	5.0	44	5BJC3100(1)N7(2)	F5BJC3100(1)N7(2)
0.22	30	6.1	11.1	7.5	5.0	36	5BJC3220(1)D7(2)	F5BJC3220(1)D7(2)
0.22	30	6.1	11.1	7.5	5.0	39	5BJC3220(1)I7(2)	F5BJC3220(1)I7(2)
0.22	30	6.1	11.1	7.5	5.0	44	5BJC3220(1)N7(2)	F5BJC3220(1)N7(2)
0.33	30	6.1	11.1	7.5	5.0	36	5BJC3330(1)D7(2)	F5BJC3330(1)D7(2)
0.33	30	6.1	11.1	7.5	5.0	39	5BJC3330(1)I7(2)	F5BJC3330(1)I7(2)
0.33	30	6.1	11.1	7.5	5.0	44	5BJC3330(1)N7(2)	F5BJC3330(1)N7(2)
0.47	30	6.1	11.1	7.5	5.0	36	5BJC3470(1)D7(2)	F5BJC3470(1)D7(2)
0.47	30	6.1	11.1	7.5	5.0	39	5BJC3470(1)I7(2)	F5BJC3470(1)I7(2)
0.47	30	6.1	11.1	7.5	5.0	44	5BJC3470(1)N7(2)	F5BJC3470(1)N7(2)
Capacitance Value (µF)	VDC	B (mm)	H (mm)	L (mm)	Lead Spacing (p)	Varistor Voltage (VDC)	New KEMET Part Number	Legacy Part Number

(1) Insert lead and packaging code. See Ordering Options Table for available options.

(2) Capacitance tolerance: K= +/-10%, M = +/-20%.

Table 1 – Ratings & Part Number Reference cont'd

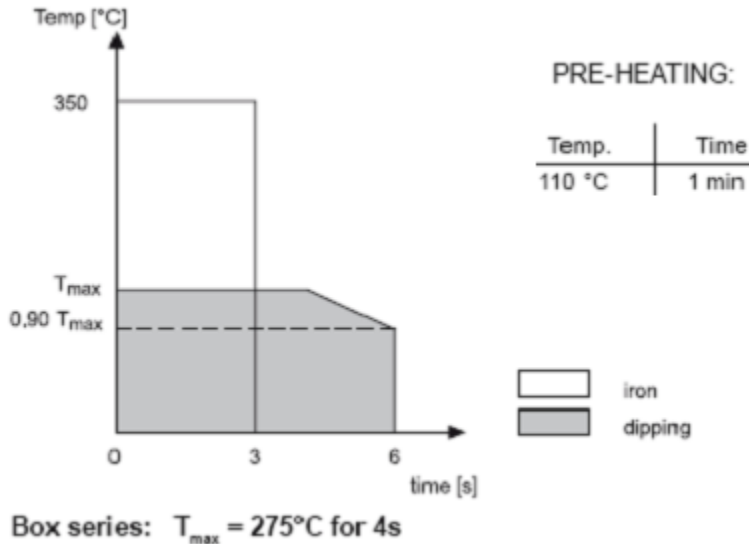
Capacitance Value (µF)	VDC	Max Dimensions in mm			Lead Spacing (p)	Varistor Voltage (VDC)	New KEMET Part Number	Legacy Part Number
		B	H	L				
0.56	30	6.1	11.1	7.5	5.0	36	5BJC3560(1)D7(2)	F5BJC3560(1)D7(2)
0.56	30	6.1	11.1	7.5	5.0	39	5BJC3560(1)I7(2)	F5BJC3560(1)I7(2)
0.56	30	6.1	11.1	7.5	5.0	44	5BJC3560(1)N7(2)	F5BJC3560(1)N7(2)
0.68	30	6.1	11.1	7.5	5.0	36	5BJC3680(1)D7(2)	F5BJC3680(1)D7(2)
0.68	30	6.1	11.1	7.5	5.0	39	5BJC3680(1)I7(2)	F5BJC3680(1)I7(2)
0.68	30	6.1	11.1	7.5	5.0	44	5BJC3680(1)N7(2)	F5BJC3680(1)N7(2)
0.82	30	6.1	11.1	7.5	5.0	36	5BJC3820(1)D7(2)	F5BJC3820(1)D7(2)
0.82	30	6.1	11.1	7.5	5.0	39	5BJC3820(1)I7(2)	F5BJC3820(1)I7(2)
0.82	30	6.1	11.1	7.5	5.0	44	5BJC3820(1)N7(2)	F5BJC3820(1)N7(2)
1.00	30	6.1	11.1	7.5	5.0	36	5BJC4100(1)D7(2)	F5BJC4100(1)D7(2)
1.00	30	6.1	11.1	7.5	5.0	39	5BJC4100(1)I7(2)	F5BJC4100(1)I7(2)
1.00	30	6.1	11.1	7.5	5.0	44	5BJC4100(1)N7(2)	F5BJC4100(1)N7(2)
1.20	30	6.1	11.1	7.5	5.0	36	5BJC4120(1)D7(2)	F5BJC4120(1)D7(2)
1.20	30	6.1	11.1	7.5	5.0	39	5BJC4120(1)I7(2)	F5BJC4120(1)I7(2)
1.20	30	6.1	11.1	7.5	5.0	44	5BJC4120(1)N7(2)	F5BJC4120(1)N7(2)
1.50	30	7.3	13.1	7.5	5.0	36	5BJC4150(1)D8(2)	F5BJC4150(1)D8(2)
1.50	30	7.3	13.1	7.5	5.0	39	5BJC4150(1)I8(2)	F5BJC4150(1)I8(2)
1.50	30	7.3	13.1	7.5	5.0	44	5BJC4150(1)N8(2)	F5BJC4150(1)N8(2)
1.80	30	7.3	13.1	7.5	5.0	36	5BJC4180(1)D8(2)	F5BJC4180(1)D8(2)
1.80	30	7.3	13.1	7.5	5.0	39	5BJC4180(1)I8(2)	F5BJC4180(1)I8(2)
1.80	30	7.3	13.1	7.5	5.0	44	5BJC4180(1)N8(2)	F5BJC4180(1)N8(2)
2.20	30	7.3	13.1	7.5	5.0	36	5BJC4220(1)D8(2)	F5BJC4220(1)D8(2)
2.20	30	7.3	13.1	7.5	5.0	39	5BJC4220(1)I8(2)	F5BJC4220(1)I8(2)
2.20	30	7.3	13.1	7.5	5.0	44	5BJC4220(1)N8(2)	F5BJC4220(1)N8(2)
0.10	45	6.1	11.1	7.5	5.0	53	5BNC3100(1)B7(2)	F5BNC3100(1)B7(2)
0.22	45	6.1	11.1	7.5	5.0	53	5BNC3220(1)B7(2)	F5BNC3220(1)B7(2)
0.33	45	6.1	11.1	7.5	5.0	53	5BNC3330(1)B7(2)	F5BNC3330(1)B7(2)
0.47	45	6.1	11.1	7.5	5.0	53	5BNC3470(1)B7(2)	F5BNC3470(1)B7(2)
0.56	45	6.1	11.1	7.5	5.0	53	5BNC3560(1)B7(2)	F5BNC3560(1)B7(2)
0.68	45	6.1	11.1	7.5	5.0	53	5BNC3680(1)B7(2)	F5BNC3680(1)B7(2)
0.82	45	6.1	11.1	7.5	5.0	53	5BNC3820(1)B7(2)	F5BNC3820(1)B7(2)
1.00	45	6.1	11.1	7.5	5.0	53	5BNC4100(1)B7(2)	F5BNC4100(1)B7(2)
1.20	45	6.1	11.1	7.5	5.0	53	5BNC4120(1)B7(2)	F5BNC4120(1)B7(2)
1.50	45	7.3	13.1	7.5	5.0	53	5BNC4150(1)B8(2)	F5BNC4150(1)B8(2)
1.80	45	7.3	13.1	7.5	5.0	53	5BNC4180(1)B8(2)	F5BNC4180(1)B8(2)
2.20	45	7.3	13.1	7.5	5.0	53	5BNC4220(1)B8(2)	F5BNC4220(1)B8(2)
0.10	50	6.1	11.1	7.5	5.0	68	5BCC3100(1)C7(2)	F5BCC3100(1)C7(2)
0.22	50	6.1	11.1	7.5	5.0	68	5BCC3220(1)C7(2)	F5BCC3220(1)C7(2)
0.33	50	6.1	11.1	7.5	5.0	68	5BCC3330(1)C7(2)	F5BCC3330(1)C7(2)
0.47	50	6.1	11.1	7.5	5.0	68	5BCC3470(1)C7(2)	F5BCC3470(1)C7(2)
0.56	50	6.1	11.1	7.5	5.0	68	5BCC3560(1)C7(2)	F5BCC3560(1)C7(2)
0.68	50	6.1	11.1	7.5	5.0	68	5BCC3680(1)C7(2)	F5BCC3680(1)C7(2)
0.82	50	6.1	11.1	7.5	5.0	68	5BCC3820(1)C7(2)	F5BCC3820(1)C7(2)
1.00	50	6.1	11.1	7.5	5.0	68	5BCC4100(1)C7(2)	F5BCC4100(1)C7(2)
1.20	50	6.1	11.1	7.5	5.0	68	5BCC4120(1)C7(2)	F5BCC4120(1)C7(2)
1.50	50	7.3	13.1	7.5	5.0	68	5BCC4150(1)C8(2)	F5BCC4150(1)C8(2)
1.80	50	7.3	13.1	7.5	5.0	68	5BCC4180(1)C8(2)	F5BCC4180(1)C8(2)
2.20	50	7.3	13.1	7.5	5.0	68	5BCC4220(1)C8(2)	F5BCC4220(1)C8(2)
0.10	63	6.1	11.1	7.5	5.0	82	5BDC3100(1)C7(2)	F5BDC3100(1)C7(2)
0.22	63	6.1	11.1	7.5	5.0	82	5BDC3220(1)C7(2)	F5BDC3220(1)C7(2)
0.33	63	6.1	11.1	7.5	5.0	82	5BDC3330(1)C7(2)	F5BDC3330(1)C7(2)
0.47	63	6.1	11.1	7.5	5.0	82	5BDC3470(1)C7(2)	F5BDC3470(1)C7(2)
0.56	63	6.1	11.1	7.5	5.0	82	5BDC3560(1)C7(2)	F5BDC3560(1)C7(2)
0.68	63	6.1	11.1	7.5	5.0	82	5BDC3680(1)C7(2)	F5BDC3680(1)C7(2)
0.82	63	6.1	11.1	7.5	5.0	82	5BDC3820(1)C7(2)	F5BDC3820(1)C7(2)
1.00	63	6.1	11.1	7.5	5.0	82	5BDC4100(1)C7(2)	F5BDC4100(1)C7(2)
1.20	63	6.1	11.1	7.5	5.0	82	5BDC4120(1)C7(2)	F5BDC4120(1)C7(2)
1.50	63	7.3	13.1	7.5	5.0	82	5BDC4150(1)C8(2)	F5BDC4150(1)C8(2)
1.80	63	7.3	13.1	7.5	5.0	82	5BDC4180(1)C8(2)	F5BDC4180(1)C8(2)
2.20	63	7.3	13.1	7.5	5.0	82	5BDC4220(1)C8(2)	F5BDC4220(1)C8(2)
Capacitance Value (µF)	VDC	B (mm)	H (mm)	L (mm)	Lead Spacing (p)	Varistor Voltage (VDC)	New KEMET Part Number	Legacy Part Number

(1) Insert lead and packaging code. See Ordering Options Table for available options.

(2) Capacitance tolerance: K = +/-10%, M = +/-20%.

Maximum Soldering Temperature

- Set the temperature so that inside the element the maximum temperature is below 160°C
- Solder within the following temperature profiles, especially for iron soldering:



General Conditions

- If two solderings are needed, please apply a recovery time until the temperature on the capacitor surface is below 50°C.
- Avoid any passing through adhesive curing oven when fixing surface mount parts in combination with through-hole parts. Insert through-hole parts only after the curing of surface mount parts.
- Avoid reflow soldering by combining the lead type with surface mount parts

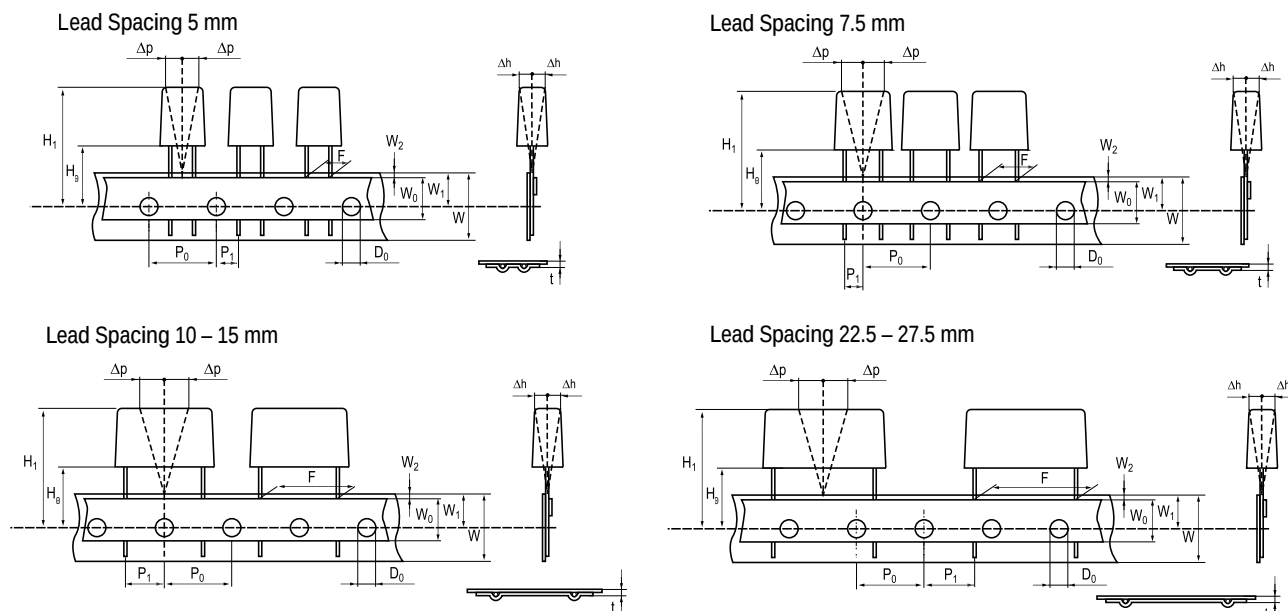
Marking

- Capacitance
- Tolerance
- DC rated voltage
- Series (F5B)
- Manufacturing date code

Packaging Quantities

Lead Spacing	Thickness (mm)	Height (mm)	Length (mm)	Bulk Short Leads	Bulk Long Leads	Standard Reel ø 355 mm	Ammo
5	4.6	9.6	7.4	1500	2000	1400	1900
	5.1	10.1	7.5	1000	1500	1200	1700
	6.1	11.1	7.5	2000	1000	1000	1400
	7.3	13.1	7.5	1500	750	800	1150

Lead Taping & Packaging (IEC 60286-2)



Taping Specification

Dimensions in mm									Standard IEC 60286-2
Lead spacing	+6/-0.1	F	5	7.5	10	15	22.5	27.5	F
Carrier tape width	+1/-0.5	W	18	18	18	18	18	18	18 ^{+1/-0.5}
Hold-down tape width	Minimum	W ₀	6	6	9	10	10	10	
Position of sprocket hole	+/-0.5	W ₁	9	9	9	9	9	9	9 ^{+0.75/-0.5}
Distance between tapes	Maximum	W ₂	3	3	3	3	3	3	3
Sprocket hole diameter	+/-0.2	D ₀	4	4	4	4	4	4	4
Feed hole lead spacing	+/-0.2 ⁽¹⁾	P ₀ ⁽³⁾	12.7	12.7	12.7	12.7	12.7	12.7	12.7
Distance lead – feed hole	+/-0.7	P ₁	3.85	3.75	7.7	5.2	7.8	5.3	P ¹
Deviation tape – plane	Maximum	Δp	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Lateral deviation	+/-2	Δh	2	2	2	2	2	2	2
Total thickness	+/-0.2	t	0.7	0.7	0.7	0.7	0.9 ^{MAX}	0.9 ^{MAX}	0.9 ^{MAX}
Sprocket hole/cap body	+/-0.5	H ₀ ⁽²⁾	18.5 ^{+/-0.5}	18.5 ^{+/-0.5}	18.5 ^{+/-0.5}	18.5 ^{+/-0.5}	18.5 ^{+/-0.5}	18.5 ^{+/-0.5}	18 ^{+2/-0}

(1) Maximum cumulative feed hole error, 1 mm per 20 parts.

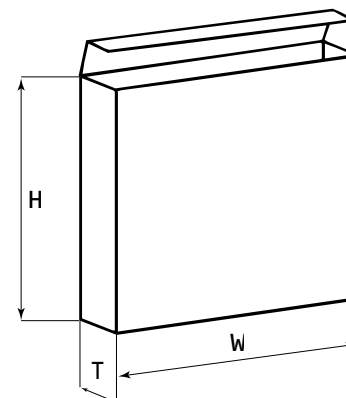
(2) 16.5 mm available on request.

(3) 15 mm available on request (F ≥ 10 mm).

Lead Taping & Packaging (IEC 60286–2) cont'd

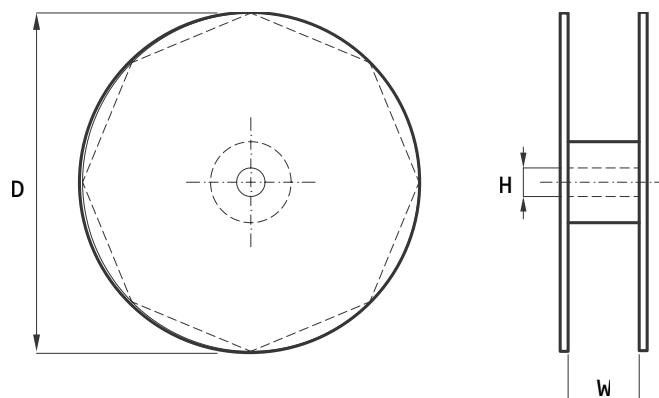
Ammo Specifications

Series	Dimensions (mm)		
	H	W	T
R4x, R4x+R, R7x, RSB	360	340	59
F5A, F5B, F5D			
F6xx, F8xx			
PHExxx, PMExxx, PMRxxx	330	330	50



Reel Specifications

Series	Dimensions (mm)		
	D	H	W
R4x, R4x+R, R7x, RSB	355 500	30	55 (Max)
F5A, F5B, F5D		25	
F6xx, F8xx			
PHExxx, PMExxx, PMRxxx	360 500	30	46 (Max)



Manufacturing Date Code (IEC–60062)

Y = Year, Z = Month			
Year	Code	Month	Code
2000	M	January	1
2001	N	February	2
2002	P	March	3
2003	R	April	4
2004	S	May	5
2005	T	June	6
2006	U	July	7
2007	V	August	8
2008	W	September	9
2009	X	October	O
2010	A	November	N
2011	B	December	D
2012	C		
2013	D		
2014	E		
2015	F		
2016	H		
2017	J		
2018	K		
2019	L		
2020	M		

KEMET Corporation World Headquarters

2835 KEMET Way
Simpsonville, SC 29681

Mailing Address:
P.O. Box 5928
Greenville, SC 29606

www.kemet.com
Tel: 864-963-6300
Fax: 864-963-6521

Corporate Offices
Fort Lauderdale, FL
Tel: 954-766-2800

North America

Southeast
Lake Mary, FL
Tel: 407-855-8886

Northeast
Wilmington, MA
Tel: 978-658-1663

Central
Novi, MI
Tel: 248-994-1030

West
Milpitas, CA
Tel: 408-433-9950

Mexico
Guadalajara, Jalisco
Tel: 52-33-3123-2141

Europe

Southern Europe
Paris, France
Tel: 33-1-4646-1006

Sasso Marconi, Italy
Tel: 39-051-939111

Central Europe
Landsberg, Germany
Tel: 49-8191-3350800

Kamen, Germany
Tel: 49-2307-438110

Northern Europe
Bishop's Stortford, United Kingdom
Tel: 44-1279-460122

Espoo, Finland
Tel: 358-9-5406-5000

Asia

Northeast Asia
Hong Kong
Tel: 852-2305-1168

Shenzhen, China
Tel: 86-755-2518-1306

Beijing, China
Tel: 86-10-5829-1711

Shanghai, China
Tel: 86-21-6447-0707

Taipei, Taiwan
Tel: 886-2-27528585

Southeast Asia
Singapore
Tel: 65-6586-1900

Penang, Malaysia
Tel: 60-4-6430200

Bangalore, India
Tel: 91-806-53-76817

Note: KEMET reserves the right to modify minor details of internal and external construction at any time in the interest of product improvement. KEMET does not assume any responsibility for infringement that might result from the use of KEMET Capacitors in potential circuit designs. KEMET is a registered trademark of KEMET Electronics Corporation.

Other KEMET Resources

Tools	
Resource	Location
Configure A Part: CapEdge	http://capacitoredge.kemet.com
SPICE & FIT Software	http://www.kemet.com/spice
Search Our FAQs: KnowledgeEdge	http://www.kemet.com/keask
Electrolytic LifeCalculator	http://www.kemet.com:8080/elc

Product Information	
Resource	Location
Products	http://www.kemet.com/products
Technical Resources (Including Soldering Techniques)	http://www.kemet.com/technicalpapers
RoHS Statement	http://www.kemet.com/rohs
Quality Documents	http://www.kemet.com/qualitydocuments

Product Request	
Resource	Location
Sample Request	http://www.kemet.com/sample
Engineering Kit Request	http://www.kemet.com/kits

Contact	
Resource	Location
Website	www.kemet.com
Contact Us	http://www.kemet.com/contact
Investor Relations	http://www.kemet.com/ir
Call Us	1-877-MyKEMET
Twitter	http://twitter.com/kemetcapacitors

Disclaimer

All product specifications, statements, information and data (collectively, the "Information") in this datasheet are subject to change. The customer is responsible for checking and verifying the extent to which the Information contained in this publication is applicable to an order at the time the order is placed.

All Information given herein is believed to be accurate and reliable, but it is presented without guarantee, warranty, or responsibility of any kind, expressed or implied.

Statements of suitability for certain applications are based on KEMET Electronics Corporation's ("KEMET") knowledge of typical operating conditions for such applications, but are not intended to constitute – and KEMET specifically disclaims – any warranty concerning suitability for a specific customer application or use. The Information is intended for use only by customers who have the requisite experience and capability to determine the correct products for their application. Any technical advice inferred from this Information or otherwise provided by KEMET with reference to the use of KEMET's products is given gratis, and KEMET assumes no obligation or liability for the advice given or results obtained.

Although KEMET designs and manufactures its products to the most stringent quality and safety standards, given the current state of the art, isolated component failures may still occur. Accordingly, customer applications which require a high degree of reliability or safety should employ suitable designs or other safeguards (such as installation of protective circuitry or redundancies) in order to ensure that the failure of an electrical component does not result in a risk of personal injury or property damage.

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

Warning: The component F5B is a combined passive suppression component. Overloading with high voltage or voltage transients can strongly damage the component with the risk of fire.

F5A Series Metallized Polyester Film with Integrated Ceramic Varistor, 18 – 63 VDC

Overview

The F5A Series is a metallized polypropylene (MKT) film capacitor with integrated ceramic capacitor encapsulated in a thermosetting resin-filled plastic box with tinned wire leads. Box material is solvent resistant and flame retardant meeting the requirements of UL 94 V-0.

Applications

Typical applications include worldwide use as EMI/RFI and transient voltage suppressors for automotive motors and other suppression applications. These include engine blower fans, central locking systems, heating/air-conditioning blowers, electric sun roofs, electric window regulators, fuel/oil pumps, electric windshield wipers and electrically operated seats. This through-hole EMI/RFI suppression element is mainly used for automotive applications without a printed circuit board, e.g., motor suppression or mixed through-hole and surface mount printed circuit boards.

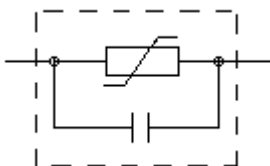
Benefits

- Low inductive MKT capacitors in parallel construction with a ceramic varistor in a single case provide superior suppression results
- Approvals: AEC-Q200, ISO 7637
- Rated voltage: 18 – 63 VDC
- Capacitance range: 0.1 μ F to 2.2 μ F
- Lead spacing: 5 – 10 mm
- Capacitance tolerance: $\pm 10\%$, $\pm 20\%$
- Climatic category: 55/125/56 IEC 60068-1
- Tape and reel packaging in accordance with IEC 60286-2
- RoHS Compliant and lead-free terminations
- Operating temperature range: -55°C to +125°C

Part Number System

F5A	H	C	4100	DQ	A	6	K
Series	Rated Voltage (VDC)	Lead Spacing (mm)	Capacitance Code (pF)	Lead and Packaging Code	Varistor Voltage V_v @ 1 mA	Size Code	Capacitance Tolerance
Film Capacitor/ Ceramic Varistor Unit	B = 18 H = 25 J = 30 N = 45 C = 50 D = 63	C = 5 F = 10	Digits 2 – 4 indicate the first three digits of the capacitance value. First digit indicates the number of zeros to be added.	See Ordering Options Table	See Varistor Voltage Table	See Dimension Table	K = $\pm 10\%$ M = $\pm 20\%$

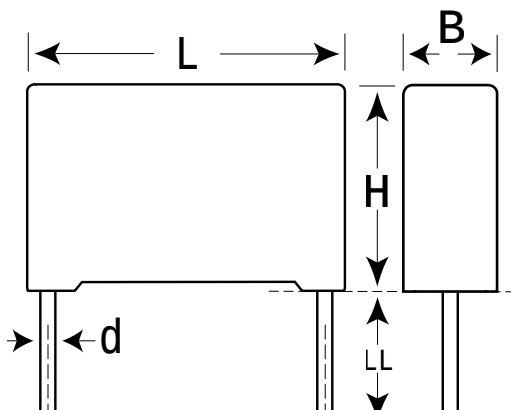
Circuit Diagram



Ordering Options Table

Lead Spacing Nominal (mm)	Type of Leads and Packaging	Lead Length (mm)	Lead and Packaging Code
5	Standard Lead and Packaging Options		
	Bulk (Bag) – Short Leads	4 +2/-0	AA
	Ammo Pack	H ₀ = 18.5 +/-0.5	DQ
	Other Lead and Packaging Options		
	Bulk (Bag) – Long Leads	17 +1/-2	Z3
	Tape & Reel (Standard Reel)	H ₀ = 18.5 +/-0.5	CK
10	Standard Lead and Packaging Options		
	Bulk (Bag) – Short Leads	4 +2/-0	AA
	Ammo Pack	H ₀ = 18.5 +/-0.5	DQ
	Other Lead and Packaging Options		
	Bulk (Bag) – Long Leads	17 +1/-2	Z3
	Tape & Reel (Large Reel)	H ₀ = 18.5 +/-0.5	CK

Dimensions – Millimeters



Rated Capacitance μF	Size Code	p		B		H		L		d	
		Nominal	Tolerance	Nominal	Tolerance	Nominal	Tolerance	Nominal	Tolerance	Nominal	Tolerance
0.1 – 0.47	5	5.0	+/-0.4	4.6	Maximum	9.6	Maximum	7.4	Maximum	0.6	+/-0.05
0.56 – 1.5	6	5.0	+/-0.4	5.1	Maximum	10.1	Maximum	7.5	Maximum	0.6	+/-0.05
1.8 – 2.2	7	5.0	+/-0.4	6.1	Maximum	11.1	Maximum	7.5	Maximum	0.6	+/-0.05
0.1 – 1.0	2	10.0	+/-0.4	5.2	Maximum	11.1	Maximum	13.4	Maximum	0.7	+/-0.05
1.2 – 1.5	3	10.0	+/-0.4	6.2	Maximum	12.1	Maximum	13.4	Maximum	0.7	+/-0.05

Note: See Ordering Options Table for lead length (LL) options.

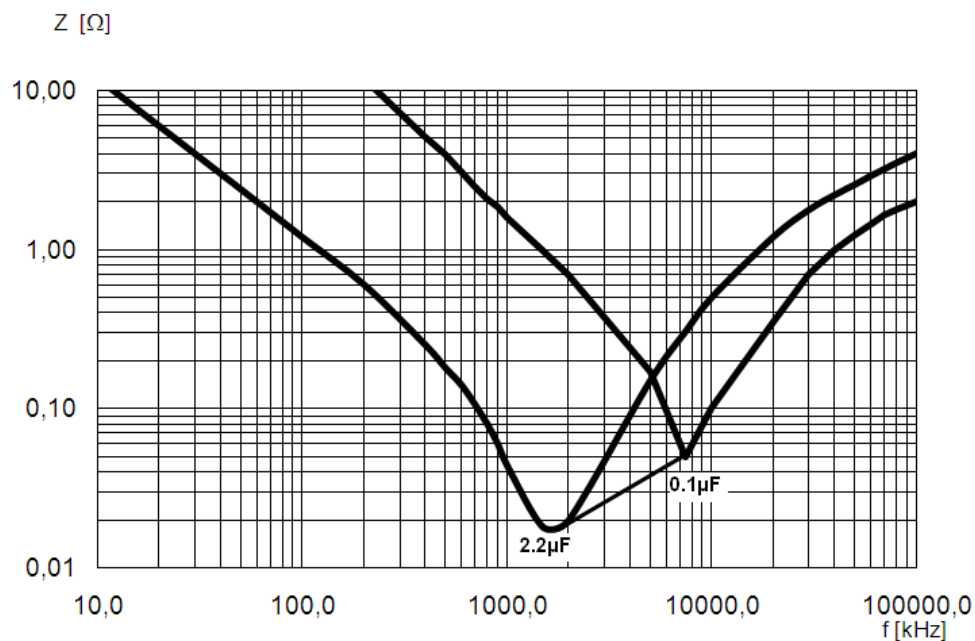
Varistor Voltage Table

Part Number Digit 4		Part Number Digit 12		Clamping Voltage (1A, Pulse 8/20 μ s)
Letter	V _r (VDC)	Letter	V _v (VDC)	V _c (V)
B	18	B	22	38
B	18	E	27	44
H	25	A	33	54
J	30	D	39	65
J	30	I	47	77
N	45	B	56	90
C	50	C	68	110
D	63	C	82	135

Performance Characteristics

Rated Voltage	18 – 63 VDC (For temperature over 100°C a decreasing factor of 2% per degree has to be applied on the rated voltage V_R)
Capacitance Range	0.1 – 2.2 μF
Capacitance Tolerance	$\pm 10\%$, $\pm 20\%$
Temperature Range	-55°C to +125°C
Climatic Category	55/125/56, IEC 60068-1
Leakage Current	$\leq 50 \mu\text{A}$ at V_R
Approvals	AEC-Q200, ISO 7637
Dissipation Factor	0.01 (1 kHz at 25°C $\pm 5^\circ\text{C}$)
Test Voltage Between Terminals	100 VDC
Insulation Resistance	$V_R < 24 \text{ V}$ 1M Ω @ 12 V, $V_R \geq 24 \text{ V}$ 1M Ω @ 24 V
Varistor	Multilayer ceramic, EIA case size 1206
Peak Current Pulse	8/20 μs
Peak Current for $V_v < 50 \text{ V}$	200 A
Peak Current for $V_v > 50 \text{ V}$	100 A

Impedance Graph



Environmental Test Data

Test	Conditions	Performance	
Damp Heat Steady State	+40°C ±2°C and 93% ±2% RH, 56 days	Δ C/C	≤ 5%
		V _v change	≤ 10%
		DF change	≤ 50 x 10 ⁻⁴ @ 1 kHz
		Leakage current at V _R	≤ 100 μA
Endurance	+125°C ±2°C/100°C ±2°C, 0.5 x V _R /1.0 x V _R , 1,000 hours	Δ C/C	≤ 10%
		V _v change	≤ 10%
		DF change	≤ 50 x 10 ⁻⁴ @ 1 kHz
		Leakage current at V _R	≤ 100 μA
Resistance to Soldering Heat	+260°C ±5°C, 10 ±1 second	Δ C/C	≤ 3%
		V _v change	≤ 5%
		DF change	≤ 30 x 10 ⁻⁴ @ 1 kHz
		Leakage current at V _R	≤ 50 μA
Peak Current Derating	Reference CECC 42,000/Test C 2.1, 100 times (2 ms), 120 seconds between each current peak	Δ C/C	≤ 10%
		V _v change	≤ 10%
		DF change	≤ 30 x 10 ⁻⁴ @ 1 kHz
		Leakage current at V _R	≤ 100 μA
Long Term Stability (After 2 Years)	-40°C to +80°C, ≤ 70% Humidity	Δ C/C	≤ 3%
		V _v change	≤ 5%
		DF change	≤ 20 x 10 ⁻⁴ @ 1 kHz
		Leakage current at V _R	≤ 50 μA
Reliability Failure Criteria	Reference MIL HDB 217 +40°C ±2°C, 0.5 x V _R , ≤ 5 FIT	Δ C/C	> 10%
		V _v change	≤ 10%
		DF change	≤ 20 x 10 ⁻⁴ @ 1 kHz
		Leakage current at V _R	≤ 200 μA

Environmental Compliance

All KEMET EMI capacitors are RoHS Compliant.



RoHS Compliant

Table 1 – Ratings & Part Number Reference

Capacitance Value (μF)	VDC	Max Dimensions in mm			Lead Spacing (p)	Varistor Voltage (VDC)	New KEMET Part Number	Legacy Part Number
		B	H	L				
0.10	18	4.6	9.6	7.4	5.0	22	5ABC3100(1)B5(2)	F5ABC3100(1)B5(2)
0.10	18	4.6	9.6	7.4	5.0	27	5ABC3100(1)E5(2)	F5ABC3100(1)E5(2)
0.22	18	4.6	9.6	7.4	5.0	22	5ABC3220(1)B5(2)	F5ABC3220(1)B5(2)
0.22	18	4.6	9.6	7.4	5.0	27	5ABC3220(1)E5(2)	F5ABC3220(1)E5(2)
0.33	18	4.6	9.6	7.4	5.0	22	5ABC3330(1)B5(2)	F5ABC3330(1)B5(2)
0.33	18	4.6	9.6	7.4	5.0	27	5ABC3330(1)E5(2)	F5ABC3330(1)E5(2)
0.47	18	4.6	9.6	7.4	5.0	22	5ABC3470(1)B5(2)	F5ABC3470(1)B5(2)
0.47	18	4.6	9.6	7.4	5.0	27	5ABC3470(1)E5(2)	F5ABC3470(1)E5(2)
0.56	18	5.1	10.1	7.5	5.0	22	5ABC3560(1)B6(2)	F5ABC3560(1)B6(2)
0.56	18	5.1	10.1	7.5	5.0	27	5ABC3560(1)E6(2)	F5ABC3560(1)E6(2)
0.68	18	5.1	10.1	7.5	5.0	22	5ABC3680(1)B6(2)	F5ABC3680(1)B6(2)
0.68	18	5.1	10.1	7.5	5.0	27	5ABC3680(1)E6(2)	F5ABC3680(1)E6(2)
0.82	18	5.1	10.1	7.5	5.0	22	5ABC3820(1)B6(2)	F5ABC3820(1)B6(2)
0.82	18	5.1	10.1	7.5	5.0	27	5ABC3820(1)E6(2)	F5ABC3820(1)E6(2)
1.00	18	5.1	10.1	7.5	5.0	22	5ABC4100(1)B6(2)	F5ABC4100(1)B6(2)
1.00	18	5.1	10.1	7.5	5.0	27	5ABC4100(1)E6(2)	F5ABC4100(1)E6(2)
1.20	18	5.1	10.1	7.5	5.0	22	5ABC4120(1)B6(2)	F5ABC4120(1)B6(2)
1.20	18	5.1	10.1	7.5	5.0	27	5ABC4120(1)E6(2)	F5ABC4120(1)E6(2)
1.50	18	5.1	10.1	7.5	5.0	22	5ABC4150(1)B6(2)	F5ABC4150(1)B6(2)
1.50	18	5.1	10.1	7.5	5.0	27	5ABC4150(1)E6(2)	F5ABC4150(1)E6(2)
1.80	18	6.1	11.1	7.5	5.0	22	5ABC4180(1)B7(2)	F5ABC4180(1)B7(2)
1.80	18	6.1	11.1	7.5	5.0	27	5ABC4180(1)E7(2)	F5ABC4180(1)E7(2)
2.20	18	6.1	11.1	7.5	5.0	22	5ABC4220(1)B7(2)	F5ABC4220(1)B7(2)
2.20	18	6.1	11.1	7.5	5.0	27	5ABC4220(1)E7(2)	F5ABC4220(1)E7(2)
0.10	25	4.6	9.6	7.4	5.0	33	5AHC3100(1)A5(2)	F5AHC3100(1)A5(2)
0.22	25	4.6	9.6	7.4	5.0	33	5AHC3220(1)A5(2)	F5AHC3220(1)A5(2)
0.33	25	4.6	9.6	7.4	5.0	33	5AHC3330(1)A5(2)	F5AHC3330(1)A5(2)
0.47	25	4.6	9.6	7.4	5.0	33	5AHC3470(1)A5(2)	F5AHC3470(1)A5(2)
0.56	25	5.1	10.1	7.5	5.0	33	5AHC3560(1)A6(2)	F5AHC3560(1)A6(2)
0.68	25	5.1	10.1	7.5	5.0	33	5AHC3680(1)A6(2)	F5AHC3680(1)A6(2)
0.82	25	5.1	10.1	7.5	5.0	33	5AHC3820(1)A6(2)	F5AHC3820(1)A6(2)
1.00	25	5.1	10.1	7.5	5.0	33	5AHC4100(1)A6(2)	F5AHC4100(1)A6(2)
1.20	25	5.1	10.1	7.5	5.0	33	5AHC4120(1)A6(2)	F5AHC4120(1)A6(2)
1.50	25	5.1	10.1	7.5	5.0	33	5AHC4150(1)A6(2)	F5AHC4150(1)A6(2)
1.80	25	6.1	11.1	7.5	5.0	33	5AHC4180(1)A7(2)	F5AHC4180(1)A7(2)
2.20	25	6.1	11.1	7.5	5.0	33	5AHC4220(1)A7(2)	F5AHC4220(1)A7(2)
0.10	30	4.6	9.6	7.4	5.0	39	5AJC3100(1)D5(2)	F5AJC3100(1)D5(2)
0.10	30	4.6	9.6	7.4	5.0	47	5AJC3100(1)I5(2)	F5AJC3100(1)I5(2)
0.22	30	4.6	9.6	7.4	5.0	39	5AJC3220(1)D5(2)	F5AJC3220(1)D5(2)
0.22	30	4.6	9.6	7.4	5.0	47	5AJC3220(1)I5(2)	F5AJC3220(1)I5(2)
0.33	30	4.6	9.6	7.4	5.0	39	5AJC3330(1)D5(2)	F5AJC3330(1)D5(2)
0.33	30	4.6	9.6	7.4	5.0	47	5AJC3330(1)I5(2)	F5AJC3330(1)I5(2)
0.47	30	4.6	9.6	7.4	5.0	39	5AJC3470(1)D5(2)	F5AJC3470(1)D5(2)
0.47	30	4.6	9.6	7.4	5.0	47	5AJC3470(1)I5(2)	F5AJC3470(1)I5(2)
0.56	30	5.1	10.1	7.5	5.0	39	5AJC3560(1)D6(2)	F5AJC3560(1)D6(2)
0.56	30	5.1	10.1	7.5	5.0	47	5AJC3560(1)I6(2)	F5AJC3560(1)I6(2)
0.68	30	5.1	10.1	7.5	5.0	39	5AJC3680(1)D6(2)	F5AJC3680(1)D6(2)
0.68	30	5.1	10.1	7.5	5.0	47	5AJC3680(1)I6(2)	F5AJC3680(1)I6(2)
0.82	30	5.1	10.1	7.5	5.0	39	5AJC3820(1)D6(2)	F5AJC3820(1)D6(2)
0.82	30	5.1	10.1	7.5	5.0	47	5AJC3820(1)I6(2)	F5AJC3820(1)I6(2)
1.00	30	5.1	10.1	7.5	5.0	39	5AJC4100(1)D6(2)	F5AJC4100(1)D6(2)
1.00	30	5.1	10.1	7.5	5.0	47	5AJC4100(1)I6(2)	F5AJC4100(1)I6(2)
1.20	30	5.1	10.1	7.5	5.0	39	5AJC4120(1)D6(2)	F5AJC4120(1)D6(2)
1.20	30	5.1	10.1	7.5	5.0	47	5AJC4120(1)I6(2)	F5AJC4120(1)I6(2)
1.50	30	5.1	10.1	7.5	5.0	39	5AJC4150(1)D6(2)	F5AJC4150(1)D6(2)
1.50	30	5.1	10.1	7.5	5.0	47	5AJC4150(1)I6(2)	F5AJC4150(1)I6(2)
1.80	30	6.1	11.1	7.5	5.0	39	5AJC4180(1)D7(2)	F5AJC4180(1)D7(2)
1.80	30	6.1	11.1	7.5	5.0	47	5AJC4180(1)I7(2)	F5AJC4180(1)I7(2)
2.20	30	6.1	11.1	7.5	5.0	39	5AJC4220(1)D7(2)	F5AJC4220(1)D7(2)
Capacitance Value (μF)	VDC	B (mm)	H (mm)	L (mm)	Lead Spacing (p)	Varistor Voltage (VDC)	New KEMET Part Number	Legacy Part Number

(1) Insert lead and packaging code. See Ordering Options Table for available options.

(2) K = 10%, M = 20%.

Table 1 – Ratings & Part Number Reference cont'd

Capacitance Value (μF)	VDC	Max Dimensions in mm			Lead Spacing (p)	Varistor Voltage (VDC)	New KEMET Part Number	Legacy Part Number
		B	H	L				
2.20	30	6.1	11.1	7.5	5.0	47	5AJC4220(1)J7(2)	F5AJC4220(1)J7(2)
0.10	45	4.6	9.6	7.4	5.0	56	5ANC3100(1)B5(2)	F5ANC3100(1)B5(2)
0.22	45	4.6	9.6	7.4	5.0	56	5ANC3220(1)B5(2)	F5ANC3220(1)B5(2)
0.33	45	4.6	9.6	7.4	5.0	56	5ANC3330(1)B5(2)	F5ANC3330(1)B5(2)
0.47	45	4.6	9.6	7.4	5.0	56	5ANC3470(1)B5(2)	F5ANC3470(1)B5(2)
0.56	45	5.1	10.1	7.5	5.0	56	5ANC3560(1)B6(2)	F5ANC3560(1)B6(2)
0.68	45	5.1	10.1	7.5	5.0	56	5ANC3680(1)B6(2)	F5ANC3680(1)B6(2)
0.82	45	5.1	10.1	7.5	5.0	56	5ANC3820(1)B6(2)	F5ANC3820(1)B6(2)
1.00	45	5.1	10.1	7.5	5.0	56	5ANC4100(1)B6(2)	F5ANC4100(1)B6(2)
1.20	45	5.1	10.1	7.5	5.0	56	5ANC4120(1)B6(2)	F5ANC4120(1)B6(2)
1.50	45	5.1	10.1	7.5	5.0	56	5ANC4150(1)B6(2)	F5ANC4150(1)B6(2)
1.80	45	6.1	11.1	7.5	5.0	56	5ANC4180(1)B7(2)	F5ANC4180(1)B7(2)
2.20	45	6.1	11.1	7.5	5.0	56	5ANC4220(1)B7(2)	F5ANC4220(1)B7(2)
0.10	50	4.6	9.6	7.4	5.0	68	5ACC3100(1)C5(2)	F5ACC3100(1)C5(2)
0.22	50	4.6	9.6	7.4	5.0	68	5ACC3220(1)C5(2)	F5ACC3220(1)C5(2)
0.33	50	4.6	9.6	7.4	5.0	68	5ACC3330(1)C5(2)	F5ACC3330(1)C5(2)
0.47	50	4.6	9.6	7.4	5.0	68	5ACC3470(1)C5(2)	F5ACC3470(1)C5(2)
0.56	50	5.1	10.1	7.5	5.0	68	5ACC3560(1)C6(2)	F5ACC3560(1)C6(2)
0.68	50	5.1	10.1	7.5	5.0	68	5ACC3680(1)C6(2)	F5ACC3680(1)C6(2)
0.82	50	5.1	10.1	7.5	5.0	68	5ACC3820(1)C6(2)	F5ACC3820(1)C6(2)
1.00	50	5.1	10.1	7.5	5.0	68	5ACC4100(1)C6(2)	F5ACC4100(1)C6(2)
1.20	50	5.1	10.1	7.5	5.0	68	5ACC4120(1)C6(2)	F5ACC4120(1)C6(2)
1.50	50	5.1	10.1	7.5	5.0	68	5ACC4150(1)C6(2)	F5ACC4150(1)C6(2)
1.80	50	6.1	11.1	7.5	5.0	68	5ACC4180(1)C7(2)	F5ACC4180(1)C7(2)
2.20	50	6.1	11.1	7.5	5.0	68	5ACC4220(1)C7(2)	F5ACC4220(1)C7(2)
0.10	63	4.6	9.6	7.4	5.0	68	5ADC3100(1)C5(2)	F5ADC3100(1)C5(2)
0.22	63	4.6	9.6	7.4	5.0	68	5ADC3220(1)C5(2)	F5ADC3220(1)C5(2)
0.33	63	4.6	9.6	7.4	5.0	68	5ADC3330(1)C5(2)	F5ADC3330(1)C5(2)
0.47	63	4.6	9.6	7.4	5.0	68	5ADC3470(1)C5(2)	F5ADC3470(1)C5(2)
0.56	63	5.1	10.1	7.5	5.0	68	5ADC3560(1)C6(2)	F5ADC3560(1)C6(2)
0.68	63	5.1	10.1	7.5	5.0	68	5ADC3680(1)C6(2)	F5ADC3680(1)C6(2)
0.82	63	5.1	10.1	7.5	5.0	68	5ADC3820(1)C6(2)	F5ADC3820(1)C6(2)
1.00	63	5.1	10.1	7.5	5.0	68	5ADC4100(1)C6(2)	F5ADC4100(1)C6(2)
1.20	63	5.1	10.1	7.5	5.0	68	5ADC4120(1)C6(2)	F5ADC4120(1)C6(2)
1.50	63	5.1	10.1	7.5	5.0	68	5ADC4150(1)C6(2)	F5ADC4150(1)C6(2)
1.80	63	6.1	11.1	7.5	5.0	68	5ADC4180(1)C7(2)	F5ADC4180(1)C7(2)
2.20	63	6.1	11.1	7.5	5.0	68	5ADC4220(1)C7(2)	F5ADC4220(1)C7(2)
0.10	18	5.2	11.1	13.4	10.0	22	5ABF3100(1)B2(2)	F5ABF3100(1)B2(2)
0.10	18	5.2	11.1	13.4	10.0	27	5ABF3100(1)E2(2)	F5ABF3100(1)E2(2)
0.22	18	5.2	11.1	13.4	10.0	22	5ABF3220(1)B2(2)	F5ABF3220(1)B2(2)
0.22	18	5.2	11.1	13.4	10.0	27	5ABF3220(1)E2(2)	F5ABF3220(1)E2(2)
0.33	18	5.2	11.1	13.4	10.0	22	5ABF3330(1)B2(2)	F5ABF3330(1)B2(2)
0.33	18	5.2	11.1	13.4	10.0	27	5ABF3330(1)E2(2)	F5ABF3330(1)E2(2)
0.47	18	5.2	11.1	13.4	10.0	22	5ABF3470(1)B2(2)	F5ABF3470(1)B2(2)
0.47	18	5.2	11.1	13.4	10.0	27	5ABF3470(1)E2(2)	F5ABF3470(1)E2(2)
0.56	18	5.2	11.1	13.4	10.0	22	5ABF3560(1)B2(2)	F5ABF3560(1)B2(2)
0.56	18	5.2	11.1	13.4	10.0	27	5ABF3560(1)E2(2)	F5ABF3560(1)E2(2)
0.68	18	5.2	11.1	13.4	10.0	22	5ABF3680(1)B2(2)	F5ABF3680(1)B2(2)
0.68	18	5.2	11.1	13.4	10.0	27	5ABF3680(1)E2(2)	F5ABF3680(1)E2(2)
0.82	18	5.2	11.1	13.4	10.0	22	5ABF3820(1)B2(2)	F5ABF3820(1)B2(2)
0.82	18	5.2	11.1	13.4	10.0	27	5ABF3820(1)E2(2)	F5ABF3820(1)E2(2)
1.00	18	5.2	11.1	13.4	10.0	22	5ABF4100(1)B2(2)	F5ABF4100(1)B2(2)
1.00	18	5.2	11.1	13.4	10.0	27	5ABF4100(1)E2(2)	F5ABF4100(1)E2(2)
1.20	18	6.2	12.1	13.4	10.0	22	5ABF4120(1)B3(2)	F5ABF4120(1)B3(2)
1.20	18	6.2	12.1	13.4	10.0	27	5ABF4120(1)E3(2)	F5ABF4120(1)E3(2)
1.50	18	6.2	12.1	13.4	10.0	22	5ABF4150(1)B3(2)	F5ABF4150(1)B3(2)
1.50	18	6.2	12.1	13.4	10.0	27	5ABF4150(1)E3(2)	F5ABF4150(1)E3(2)
0.10	25	5.2	11.1	13.4	10.0	33	5AHF3100(1)A2(2)	F5AHF3100(1)A2(2)
0.22	25	5.2	11.1	13.4	10.0	33	5AHF3220(1)A2(2)	F5AHF3220(1)A2(2)
Capacitance Value (μF)	VDC	B (mm)	H (mm)	L (mm)	Lead Spacing (p)	Varistor Voltage (VDC)	New KEMET Part Number	Legacy Part Number

(1) Insert lead and packaging code. See Ordering Options Table for available options.

(2) K = 10%, M = 20%.

Table 1 – Ratings & Part Number Reference cont'd

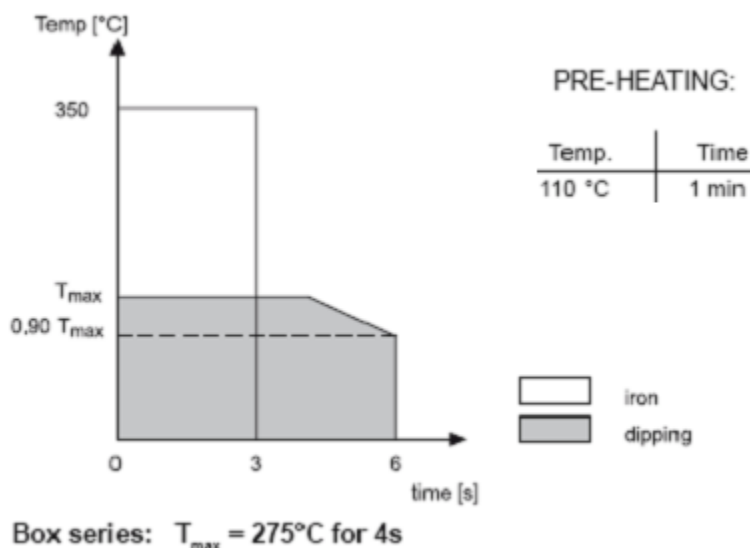
Capacitance Value (μF)	VDC	Max Dimensions in mm			Lead Spacing (p)	Varistor Voltage (VDC)	New KEMET Part Number	Legacy Part Number
		B	H	L				
0.33	25	5.2	11.1	13.4	10.0	33	5AHF3330(1)A2(2)	F5AHF3330(1)A2(2)
0.47	25	5.2	11.1	13.4	10.0	33	5AHF3470(1)A2(2)	F5AHF3470(1)A2(2)
0.56	25	5.2	11.1	13.4	10.0	33	5AHF3560(1)A2(2)	F5AHF3560(1)A2(2)
0.68	25	5.2	11.1	13.4	10.0	33	5AHF3680(1)A2(2)	F5AHF3680(1)A2(2)
0.82	25	5.2	11.1	13.4	10.0	33	5AHF3820(1)A2(2)	F5AHF3820(1)A2(2)
1.00	25	5.2	11.1	13.4	10.0	33	5AHF4100(1)A2(2)	F5AHF4100(1)A2(2)
1.20	25	6.2	12.1	13.4	10.0	33	5AHF4120(1)A3(2)	F5AHF4120(1)A3(2)
1.50	25	6.2	12.1	13.4	10.0	33	5AHF4150(1)A3(2)	F5AHF4150(1)A3(2)
0.10	30	5.2	11.1	13.4	10.0	39	5AJF3100(1)D2(2)	F5AJF3100(1)D2(2)
0.10	30	5.2	11.1	13.4	10.0	47	5AJF3100(1)I2(2)	F5AJF3100(1)I2(2)
0.22	30	5.2	11.1	13.4	10.0	39	5AJF3220(1)D2(2)	F5AJF3220(1)D2(2)
0.22	30	5.2	11.1	13.4	10.0	47	5AJF3220(1)I2(2)	F5AJF3220(1)I2(2)
0.33	30	5.2	11.1	13.4	10.0	39	5AJF3330(1)D2(2)	F5AJF3330(1)D2(2)
0.33	30	5.2	11.1	13.4	10.0	47	5AJF3330(1)I2(2)	F5AJF3330(1)I2(2)
0.47	30	5.2	11.1	13.4	10.0	39	5AJF3470(1)D2(2)	F5AJF3470(1)D2(2)
0.47	30	5.2	11.1	13.4	10.0	47	5AJF3470(1)I2(2)	F5AJF3470(1)I2(2)
0.56	30	5.2	11.1	13.4	10.0	39	5AJF3560(1)D2(2)	F5AJF3560(1)D2(2)
0.56	30	5.2	11.1	13.4	10.0	47	5AJF3560(1)I2(2)	F5AJF3560(1)I2(2)
0.68	30	5.2	11.1	13.4	10.0	39	5AJF3680(1)D2(2)	F5AJF3680(1)D2(2)
0.68	30	5.2	11.1	13.4	10.0	47	5AJF3680(1)I2(2)	F5AJF3680(1)I2(2)
0.82	30	5.2	11.1	13.4	10.0	39	5AJF3820(1)D2(2)	F5AJF3820(1)D2(2)
0.82	30	5.2	11.1	13.4	10.0	47	5AJF3820(1)I2(2)	F5AJF3820(1)I2(2)
1.00	30	5.2	11.1	13.4	10.0	39	5AJF4100(1)D2(2)	F5AJF4100(1)D2(2)
1.00	30	5.2	11.1	13.4	10.0	47	5AJF4100(1)I2(2)	F5AJF4100(1)I2(2)
1.20	30	6.2	12.1	13.4	10.0	39	5AJF4120(1)D3(2)	F5AJF4120(1)D3(2)
1.20	30	6.2	12.1	13.4	10.0	47	5AJF4120(1)I3(2)	F5AJF4120(1)I3(2)
1.50	30	6.2	12.1	13.4	10.0	39	5AJF4150(1)D3(2)	F5AJF4150(1)D3(2)
1.50	30	6.2	12.1	13.4	10.0	47	5AJF4150(1)I3(2)	F5AJF4150(1)I3(2)
0.10	45	5.2	11.1	13.4	10.0	56	5ANF3100(1)B2(2)	F5ANF3100(1)B2(2)
0.22	45	5.2	11.1	13.4	10.0	56	5ANF3220(1)B2(2)	F5ANF3220(1)B2(2)
0.33	45	5.2	11.1	13.4	10.0	56	5ANF3330(1)B2(2)	F5ANF3330(1)B2(2)
0.47	45	5.2	11.1	13.4	10.0	56	5ANF3470(1)B2(2)	F5ANF3470(1)B2(2)
0.56	45	5.2	11.1	13.4	10.0	56	5ANF3560(1)B2(2)	F5ANF3560(1)B2(2)
0.68	45	5.2	11.1	13.4	10.0	56	5ANF3680(1)B2(2)	F5ANF3680(1)B2(2)
0.82	45	5.2	11.1	13.4	10.0	56	5ANF3820(1)B2(2)	F5ANF3820(1)B2(2)
1.00	45	5.2	11.1	13.4	10.0	56	5ANF4100(1)B2(2)	F5ANF4100(1)B2(2)
1.20	45	6.2	12.1	13.4	10.0	56	5ANF4120(1)B3(2)	F5ANF4120(1)B3(2)
1.50	45	6.2	12.1	13.4	10.0	56	5ANF4150(1)B3(2)	F5ANF4150(1)B3(2)
0.10	50	5.2	11.1	13.4	10.0	68	5ACF3100(1)C2(2)	F5ACF3100(1)C2(2)
0.22	50	5.2	11.1	13.4	10.0	68	5ACF3220(1)C2(2)	F5ACF3220(1)C2(2)
0.33	50	5.2	11.1	13.4	10.0	68	5ACF3330(1)C2(2)	F5ACF3330(1)C2(2)
0.47	50	5.2	11.1	13.4	10.0	68	5ACF3470(1)C2(2)	F5ACF3470(1)C2(2)
0.56	50	5.2	11.1	13.4	10.0	68	5ACF3560(1)C2(2)	F5ACF3560(1)C2(2)
0.68	50	5.2	11.1	13.4	10.0	68	5ACF3680(1)C2(2)	F5ACF3680(1)C2(2)
0.82	50	5.2	11.1	13.4	10.0	68	5ACF3820(1)C2(2)	F5ACF3820(1)C2(2)
1.00	50	5.2	11.1	13.4	10.0	68	5ACF4100(1)C2(2)	F5ACF4100(1)C2(2)
1.20	50	6.2	12.1	13.4	10.0	68	5ACF4120(1)C3(2)	F5ACF4120(1)C3(2)
1.50	50	6.2	12.1	13.4	10.0	68	5ACF4150(1)C3(2)	F5ACF4150(1)C3(2)
0.10	63	5.2	11.1	13.4	10.0	68	5ADF3100(1)C2(2)	F5ADF3100(1)C2(2)
0.22	63	5.2	11.1	13.4	10.0	68	5ADF3220(1)C2(2)	F5ADF3220(1)C2(2)
0.33	63	5.2	11.1	13.4	10.0	68	5ADF3330(1)C2(2)	F5ADF3330(1)C2(2)
0.47	63	5.2	11.1	13.4	10.0	68	5ADF3470(1)C2(2)	F5ADF3470(1)C2(2)
0.56	63	5.2	11.1	13.4	10.0	68	5ADF3560(1)C2(2)	F5ADF3560(1)C2(2)
0.68	63	5.2	11.1	13.4	10.0	68	5ADF3680(1)C2(2)	F5ADF3680(1)C2(2)
0.82	63	5.2	11.1	13.4	10.0	68	5ADF3820(1)C2(2)	F5ADF3820(1)C2(2)
1.00	63	5.2	11.1	13.4	10.0	68	5ADF4100(1)C2(2)	F5ADF4100(1)C2(2)
1.20	63	6.2	12.1	13.4	10.0	68	5ADF4120(1)C3(2)	F5ADF4120(1)C3(2)
1.50	63	6.2	12.1	13.4	10.0	68	5ADF4150(1)C3(2)	F5ADF4150(1)C3(2)
Capacitance Value (μF)	VDC	B (mm)	H (mm)	L (mm)	Lead Spacing (p)	Varistor Voltage (VDC)	New KEMET Part Number	Legacy Part Number

(1) Insert lead and packaging code. See Ordering Options Table for available options.

(2) K = 10%, M = 20%.

Maximum Soldering Temperature

- Set the temperature so that inside the element the maximum temperature is below 160°C
- Solder within the following temperature profiles, especially for iron soldering:



General Conditions

- If two solderings are needed, please apply a recovery time until the temperature on the capacitor surface is below 50°C.
- Avoid any passing through adhesive curing oven when fixing surface mount parts in combination with through-hole parts. Insert through-hole parts only after the curing of surface mount parts.
- Avoid reflow soldering by combining the lead type with surface mount parts

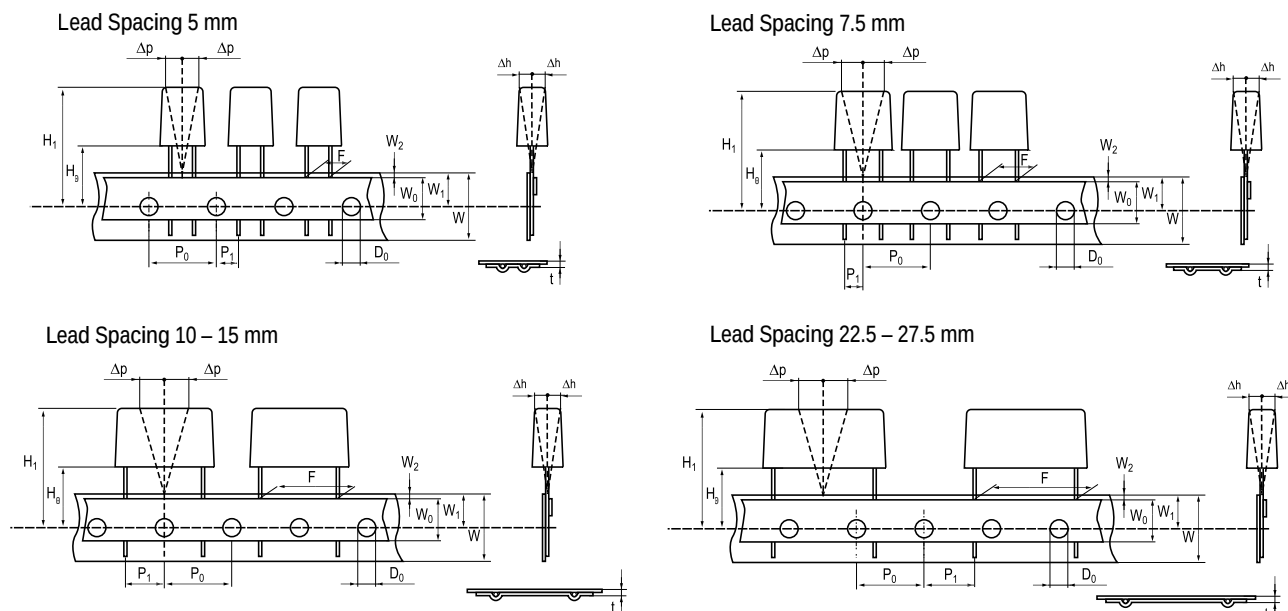
Marking

- Capacitance
- Tolerance
- DC rated voltage
- Series (F5A)
- Manufacturing date code

Packaging Quantities

Lead Spacing	Thickness (mm)	Height (mm)	Length (mm)	Bulk Short Leads	Bulk Long Leads	Standard Reel ø 355 mm	Large Reel ø 500 mm	Ammo
5	4.6	9.6	7.4	1500	2000	1400		1900
	5.1	10.1	7.5	1000	1500	1200		1700
	6.1	11.1	7.5	2000	1000	1000		1400
	7.3	13.1	7.5	1500	750	800		1150
10	5.2	11.1	13.4	1300	2000	600	1250	800
	6.2	12.1	13.4	1000	1800	500	1000	680

Lead Taping & Packaging (IEC 60286-2)



Taping Specification

Dimensions in mm									Standard IEC 60286-2
Lead spacing	+6/-0.1	F	5	7.5	10	15	22.5	27.5	F
Carrier tape width	+1/-0.5	W	18	18	18	18	18	18	18 ^{+1/-0.5}
Hold-down tape width	Minimum	W ₀	6	6	9	10	10	10	
Position of sprocket hole	+/-0.5	W ₁	9	9	9	9	9	9	9 ^{+0.75/-0.5}
Distance between tapes	Maximum	W ₂	3	3	3	3	3	3	3
Sprocket hole diameter	+/-0.2	D ₀	4	4	4	4	4	4	4
Feed hole lead spacing	+/-0.2 ⁽¹⁾	P ₀ ⁽³⁾	12.7	12.7	12.7	12.7	12.7	12.7	12.7
Distance lead – feed hole	+/-0.7	P ₁	3.85	3.75	7.7	5.2	7.8	5.3	P ¹
Deviation tape – plane	Maximum	Δp	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Lateral deviation	+/-2	Δh	2	2	2	2	2	2	2
Total thickness	+/-0.2	t	0.7	0.7	0.7	0.7	0.9 ^{MAX}	0.9 ^{MAX}	0.9 ^{MAX}
Sprocket hole/cap body	+/-0.5	H ₀ ⁽²⁾	18.5 ^{+/-0.5}	18.5 ^{+/-0.5}	18.5 ^{+/-0.5}	18.5 ^{+/-0.5}	18.5 ^{+/-0.5}	18.5 ^{+/-0.5}	18 ^{+2/-0}

(1) Maximum cumulative feed hole error, 1 mm per 20 parts.

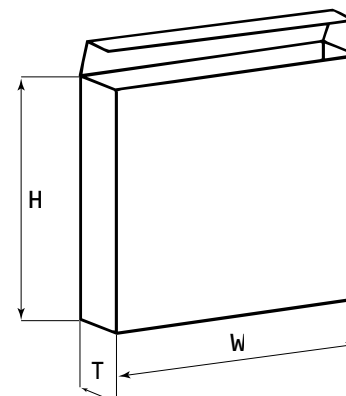
(2) 16.5 mm available on request.

(3) 15 mm available on request (F ≥ 10 mm).

Lead Taping & Packaging (IEC 60286–2) cont'd

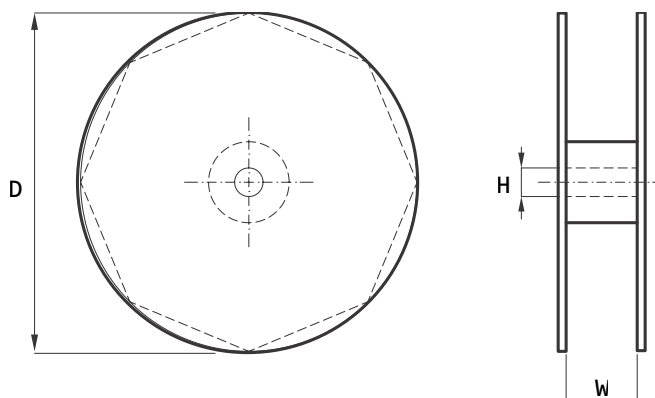
Ammo Specifications

Series	Dimensions (mm)		
	H	W	T
R4x, R4x+R, R7x, RSB	360	340	59
F5A, F5B, F5D			
F6xx, F8xx			
PHExxx, PMExxx, PMRxxx	330	330	50



Reel Specifications

Series	Dimensions (mm)		
	D	H	W
R4x, R4x+R, R7x, RSB	355 500	30	55 (Max)
F5A, F5B, F5D		25	
F6xx, F8xx			
PHExxx, PMExxx, PMRxxx	360 500	30	46 (Max)



Manufacturing Date Code (IEC–60062)

Y = Year, Z = Month			
Year	Code	Month	Code
2000	M	January	1
2001	N	February	2
2002	P	March	3
2003	R	April	4
2004	S	May	5
2005	T	June	6
2006	U	July	7
2007	V	August	8
2008	W	September	9
2009	X	October	O
2010	A	November	N
2011	B	December	D
2012	C		
2013	D		
2014	E		
2015	F		
2016	H		
2017	J		
2018	K		
2019	L		
2020	M		

KEMET Corporation World Headquarters

2835 KEMET Way
Simpsonville, SC 29681

Mailing Address:
P.O. Box 5928
Greenville, SC 29606

www.kemet.com
Tel: 864-963-6300
Fax: 864-963-6521

Corporate Offices
Fort Lauderdale, FL
Tel: 954-766-2800

North America

Southeast
Lake Mary, FL
Tel: 407-855-8886

Northeast
Wilmington, MA
Tel: 978-658-1663

Central
Novi, MI
Tel: 248-994-1030

West
Milpitas, CA
Tel: 408-433-9950

Mexico
Guadalajara, Jalisco
Tel: 52-33-3123-2141

Europe

Southern Europe
Paris, France
Tel: 33-1-4646-1006

Sasso Marconi, Italy
Tel: 39-051-939111

Central Europe
Landsberg, Germany
Tel: 49-8191-3350800

Kamen, Germany
Tel: 49-2307-438110

Northern Europe
Bishop's Stortford, United Kingdom
Tel: 44-1279-460122

Espoo, Finland
Tel: 358-9-5406-5000

Asia

Northeast Asia
Hong Kong
Tel: 852-2305-1168

Shenzhen, China
Tel: 86-755-2518-1306

Beijing, China
Tel: 86-10-5829-1711

Shanghai, China
Tel: 86-21-6447-0707

Taipei, Taiwan
Tel: 886-2-27528585

Southeast Asia
Singapore
Tel: 65-6586-1900

Penang, Malaysia
Tel: 60-4-6430200

Bangalore, India
Tel: 91-806-53-76817

Note: KEMET reserves the right to modify minor details of internal and external construction at any time in the interest of product improvement. KEMET does not assume any responsibility for infringement that might result from the use of KEMET Capacitors in potential circuit designs. KEMET is a registered trademark of KEMET Electronics Corporation.

Other KEMET Resources

Tools	
Resource	Location
Configure A Part: CapEdge	http://capacitoredge.kemet.com
SPICE & FIT Software	http://www.kemet.com/spice
Search Our FAQs: KnowledgeEdge	http://www.kemet.com/keask
Electrolytic LifeCalculator	http://www.kemet.com:8080/elc

Product Information	
Resource	Location
Products	http://www.kemet.com/products
Technical Resources (Including Soldering Techniques)	http://www.kemet.com/technicalpapers
RoHS Statement	http://www.kemet.com/rohs
Quality Documents	http://www.kemet.com/qualitydocuments

Product Request	
Resource	Location
Sample Request	http://www.kemet.com/sample
Engineering Kit Request	http://www.kemet.com/kits

Contact	
Resource	Location
Website	www.kemet.com
Contact Us	http://www.kemet.com/contact
Investor Relations	http://www.kemet.com/ir
Call Us	1-877-MyKEMET
Twitter	http://twitter.com/kemetcapacitors

Disclaimer

All product specifications, statements, information and data (collectively, the "Information") in this datasheet are subject to change. The customer is responsible for checking and verifying the extent to which the Information contained in this publication is applicable to an order at the time the order is placed.

All Information given herein is believed to be accurate and reliable, but it is presented without guarantee, warranty, or responsibility of any kind, expressed or implied.

Statements of suitability for certain applications are based on KEMET Electronics Corporation's ("KEMET") knowledge of typical operating conditions for such applications, but are not intended to constitute – and KEMET specifically disclaims – any warranty concerning suitability for a specific customer application or use. The Information is intended for use only by customers who have the requisite experience and capability to determine the correct products for their application. Any technical advice inferred from this Information or otherwise provided by KEMET with reference to the use of KEMET's products is given gratis, and KEMET assumes no obligation or liability for the advice given or results obtained.

Although KEMET designs and manufactures its products to the most stringent quality and safety standards, given the current state of the art, isolated component failures may still occur. Accordingly, customer applications which require a high degree of reliability or safety should employ suitable designs or other safeguards (such as installation of protective circuitry or redundancies) in order to ensure that the failure of an electrical component does not result in a risk of personal injury or property damage.

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

Warning: The component F5A is a combined passive suppression component. Overloading with high voltage or voltage transients can strongly damage the component with the risk of fire.

Remark: For technical reasons, the varistor may not be covered fully by resin. This does not constitute grounds for complaint. The varistors are specified for the same range of temperature and climate as the combined elements. They do not require protection by the resin.

F5D Series Metallized Polyester Film with Integrated Ceramic Capacitor, 63 – 100 VDC

Overview

The F5D Series is a metallized polyester (MKT) film capacitor with integrated ceramic capacitor encapsulated in a thermosetting resin-filled plastic box with tinned wire leads. Box material is solvent resistant and flame retardant meeting the requirements of UL 94 V-0.

Applications

Typical applications include worldwide use as EMI/RFI suppressors for automotive motors and other suppression applications such as engine blower fans, central locking systems, heating/air-conditioning blowers, electric sun roofs, electric window regulators, fuel/oil pumps, electric windshield wipers and electrically operated seats. This through-hole EMI/RFI suppression element is mainly used for automotive applications without a printed circuit board, e.g., motor suppression or mixed through-hole and surface mount printed circuit boards.

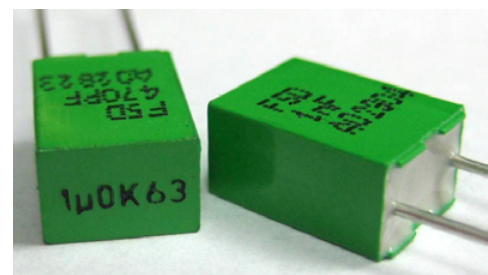
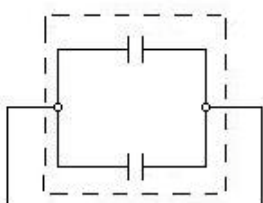
Benefits

- Low inductive MKT capacitors in parallel construction with a ceramic capacitor in a single case provide superior suppression results
- Approvals: AEC-Q200, ISO 7637-2
- Rated voltage: 63 – 100 VDC
- Capacitance range: 0.1 – 2.2 μ F
- Capacitance tolerance: $\pm 10\%$, $\pm 20\%$
- Climatic category: 55/125/56, IEC 60068-1
- Tape and reel packaging in accordance with IEC 60286-2
- RoHS Compliant and lead-free terminations
- Operating temperature range: -55°C to $+125^{\circ}\text{C}$

Part Number System

F5D	D	C	3100	DQ	W	5	M
Series	Rated Voltage (VDC)	Lead Spacing (mm)	Capacitance Code (pF)	Lead and Packaging Code	Ceramic Capacitor Value	Size Code	Capacitance Tolerance
Film Capacitor/ Ceramic Capacitor Unit	D = 63 E = 100	C = 5 mm F = 10 mm	Digits 2 – 4 indicate the first three digits of the capacitance value. First digit indicates the number of zeros to be added.	See Ordering Options Table	See Ceramic Capacitor Table	See Dimension Table	K = $\pm 10\%$ M = $\pm 20\%$

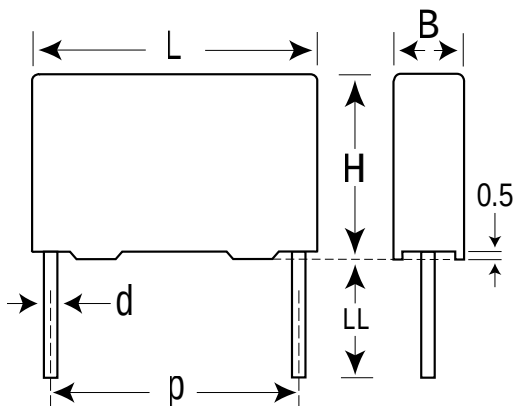
Circuit Diagram



Ordering Options Table

Lead Spacing Nominal (mm)	Type of Leads and Packaging	Lead Length (mm)	Lead and Packaging Code
5	Standard Lead and Packaging Options		
	Bulk (Bag) – Short Leads	4 +2/-0	AA
	Ammo Pack	$H_0 = 18.5 \pm 0.5$	DQ
	Other Lead and Packaging Options		
	Bulk (Bag) – Long Leads	17 +1/-2	Z3
	Tape & Reel (Standard Reel)	$H_0 = 18.5 \pm 0.5$	CK
10	Standard Lead and Packaging Options		
	Bulk (Bag) – Short Leads	4 +2/-0	AA
	Ammo Pack	$H_0 = 18.5 \pm 0.5$	DQ
	Other Lead and Packaging Options		
	Bulk (Bag) – Long Leads	17 +1/-2	Z3
	Tape & Reel (Large Reel)	$H_0 = 18.5 \pm 0.5$	CK

Dimensions – Millimeters



Rated Capacitance μF		Size Code	p		B		H		L		d	
$V_r = 63 \text{ V}$	$V_r = 100 \text{ V}$	(Digit 13)	Nominal	Tolerance	Nominal	Tolerance	Nominal	Tolerance	Nominal	Tolerance	Nominal	Tolerance
0.1 – 0.47	0.1 – 0.33	5	5.0	± 0.4	4.6	Maximum	9.6	Maximum	7.4	Maximum	0.6	± 0.05
0.56 – 1.5	0.47 – 1.0	6	5.0	± 0.4	5.1	Maximum	10.1	Maximum	7.5	Maximum	0.6	± 0.05
1.8	1.2 – 1.5	7	5.0	± 0.4	6.1	Maximum	11.1	Maximum	7.5	Maximum	0.6	± 0.05
0.1 – 1.0	0.1 – 1.0	2	10.0	± 0.4	5.2	Maximum	11.1	Maximum	13.4	Maximum	0.75	± 0.05
1.2 – 1.5	1.2 – 1.5	3	10.0	± 0.4	6.2	Maximum	12.1	Maximum	13.4	Maximum	0.75	± 0.05

Note: See Ordering Options Table for lead length (LL) options.

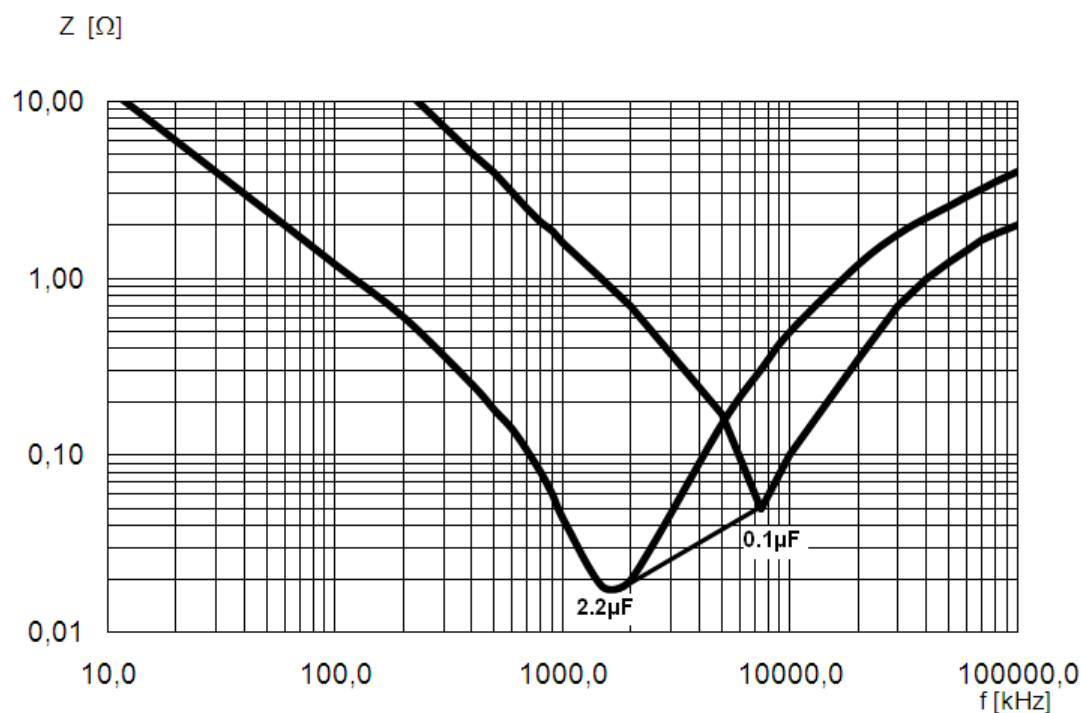
Ceramic Capacitor Value

Ceramic Capacitor Value	Digit 12
10 pF	U
22 pF	V
47 pF	W
68 pF	X
100 pF	E
220 pF	G
470 pF	A
680 pF	H
1 nF	C
2.2 nF	F
4.7 nF	B
6.8 nF	N
10 nF	D
47 nF	R
68 nF	T
100 nF	S

Performance Characteristics

Rated Voltage	63 – 100 VDC (For temperature over 100°C a decreasing factor of 2% per degree has to be applied on the rated voltage V_R)
Capacitance Range	0.1 – 2.2 μF (See Ceramic Capacitor Value Table)
Capacitance Tolerance	$\pm 10\%$, $\pm 20\%$
Temperature Range	-55°C to +125°C
Climatic Category	55/125/56, IEC 60068-1
Leakage Current	$\leq 10 \mu\text{A}$ at V_R
Approvals	AEC-Q200, ISO 7637
Dissipation Factor	0.025 (1 kHz at 25°C $\pm$ 5°C)
Test Voltage Between Terminals	$1.6 \times V_R$
Insulation Resistance	100 M Ω @ 50 V

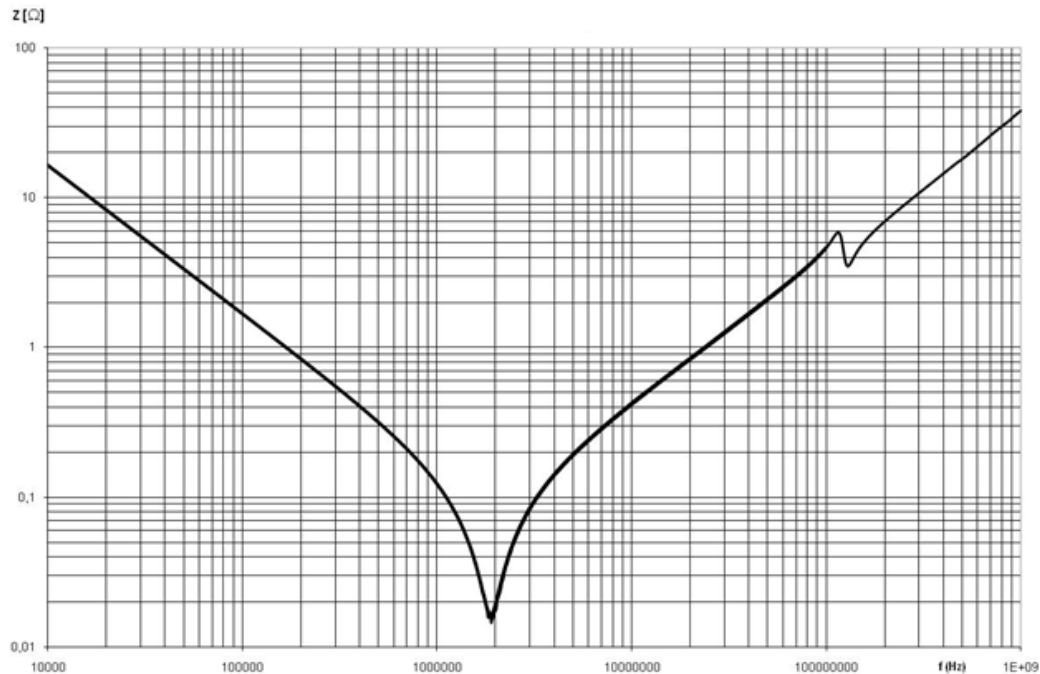
Impedance Graphs



Impedance Graphs cont'd

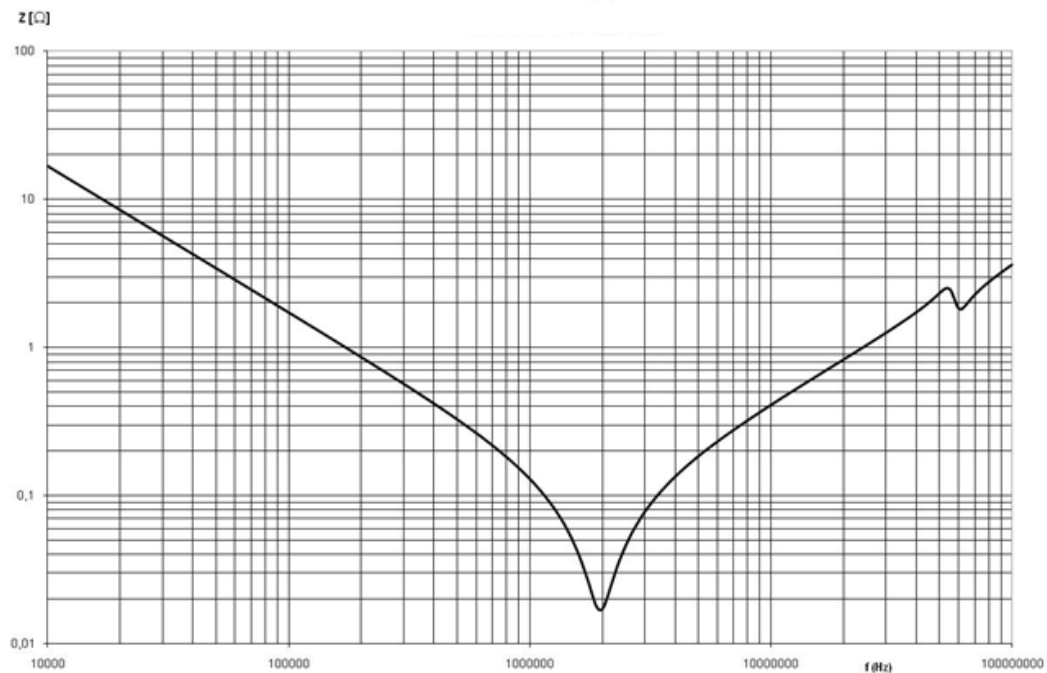
Impedance vs. Frequency

Example: Combination of 1 μF and 1 nF



Impedance vs. Frequency

Example: Combination of 1 μF and 4.7 nF



Environmental Test Data

Test	Conditions	Performance	
Damp Heat Steady State	+40°C ±2°C and 93% ±2% RH, 56 days	Δ C/C	≤ 5%
		DF Change	≤ 50 x 10 ⁻⁴ @ 1 kHz
		Leakage current at V _R	≤ 100 μA
Endurance	+125°C ±2°C/100°C ±2°C, 0.5 x V _R /1.0 x V _R , 1,000 hours	Δ C/C	≤ 10%
		DF Change	≤ 50 x 10 ⁻⁴ @ 1 kHz
		Leakage current at V _R	≤ 100 μA
Resistance to Soldering Heat	+260°C ±5°C, 10 ±1 second	Δ C/C	≤ 3%
		DF Change	≤ 30 x 10 ⁻⁴ @ 1 kHz
		Leakage current at V _R	≤ 50 μA
Long Term Stability (After 2 Years)	-40°C to +80°C, ≤ 70% humidity	Δ C/C	≤ 3%
		DF Change	≤ 20 x 10 ⁻⁴ @ 1 kHz
		Leakage current at V _R	≤ 50 μA
Reliability Failure Criteria	Reference MIL HDB 217 +40°C ±2°C, 0.5 x V _R , ≤ 5 FIT	Δ C/C	> 10%
		DF Change	≤ 20 x 10 ⁻⁴ @ 1 kHz
		Leakage current at V _R	≤ 200 μA

Environmental Compliance

All KEMET EMI capacitors are RoHS Compliant.



RoHS Compliant

Table 1 – Ratings & Part Number Reference

Capacitance Value (μF)	VDC	Max Dimensions in mm			Lead Spacing (p)	Ceramic Cap (μF)	New KEMET Part Number	Legacy Part Number
		B	H	L				
0.10	63	4.6	9.6	7.4	5.0	0.00001	5DDC3100(1)U5(2)	F5DDC3100(1)U5(2)
0.10	63	4.6	9.6	7.4	5.0	0.000022	5DDC3100(1)V5(2)	F5DDC3100(1)V5(2)
0.10	63	4.6	9.6	7.4	5.0	0.000047	5DDC3100(1)W5(2)	F5DDC3100(1)W5(2)
0.10	63	4.6	9.6	7.4	5.0	0.000068	5DDC3100(1)X5(2)	F5DDC3100(1)X5(2)
0.10	63	4.6	9.6	7.4	5.0	0.0001	5DDC3100(1)E5(2)	F5DDC3100(1)E5(2)
0.10	63	4.6	9.6	7.4	5.0	0.00022	5DDC3100(1)G5(2)	F5DDC3100(1)G5(2)
0.10	63	4.6	9.6	7.4	5.0	0.00047	5DDC3100(1)A5(2)	F5DDC3100(1)A5(2)
0.10	63	4.6	9.6	7.4	5.0	0.00068	5DDC3100(1)H5(2)	F5DDC3100(1)H5(2)
0.10	63	4.6	9.6	7.4	5.0	0.001	5DDC3100(1)C5(2)	F5DDC3100(1)C5(2)
0.10	63	4.6	9.6	7.4	5.0	0.0022	5DDC3100(1)F5(2)	F5DDC3100(1)F5(2)
0.10	63	4.6	9.6	7.4	5.0	0.0047	5DDC3100(1)B5(2)	F5DDC3100(1)B5(2)
0.10	63	4.6	9.6	7.4	5.0	0.0068	5DDC3100(1)N5(2)	F5DDC3100(1)N5(2)
0.10	63	4.6	9.6	7.4	5.0	0.01	5DDC3100(1)D5(2)	F5DDC3100(1)D5(2)
0.10	63	4.6	9.6	7.4	5.0	0.047	5DDC3100(1)R5(2)	F5DDC3100(1)R5(2)
0.10	63	4.6	9.6	7.4	5.0	0.068	5DDC3100(1)T5(2)	F5DDC3100(1)T5(2)
0.10	63	4.6	9.6	7.4	5.0	0.1	5DDC3100(1)S5(2)	F5DDC3100(1)S5(2)
0.22	63	4.6	9.6	7.4	5.0	0.00001	5DDC3220(1)U5(2)	F5DDC3220(1)U5(2)
0.22	63	4.6	9.6	7.4	5.0	0.000022	5DDC3220(1)V5(2)	F5DDC3220(1)V5(2)
0.22	63	4.6	9.6	7.4	5.0	0.000047	5DDC3220(1)W5(2)	F5DDC3220(1)W5(2)
0.22	63	4.6	9.6	7.4	5.0	0.000068	5DDC3220(1)X5(2)	F5DDC3220(1)X5(2)
0.22	63	4.6	9.6	7.4	5.0	0.0001	5DDC3220(1)E5(2)	F5DDC3220(1)E5(2)
0.22	63	4.6	9.6	7.4	5.0	0.00022	5DDC3220(1)G5(2)	F5DDC3220(1)G5(2)
0.22	63	4.6	9.6	7.4	5.0	0.00047	5DDC3220(1)A5(2)	F5DDC3220(1)A5(2)
0.22	63	4.6	9.6	7.4	5.0	0.00068	5DDC3220(1)H5(2)	F5DDC3220(1)H5(2)
0.22	63	4.6	9.6	7.4	5.0	0.001	5DDC3220(1)C5(2)	F5DDC3220(1)C5(2)
0.22	63	4.6	9.6	7.4	5.0	0.0022	5DDC3220(1)F5(2)	F5DDC3220(1)F5(2)
0.22	63	4.6	9.6	7.4	5.0	0.0047	5DDC3220(1)B5(2)	F5DDC3220(1)B5(2)
0.22	63	4.6	9.6	7.4	5.0	0.0068	5DDC3220(1)N5(2)	F5DDC3220(1)N5(2)
0.22	63	4.6	9.6	7.4	5.0	0.01	5DDC3220(1)D5(2)	F5DDC3220(1)D5(2)
0.22	63	4.6	9.6	7.4	5.0	0.047	5DDC3220(1)R5(2)	F5DDC3220(1)R5(2)
0.22	63	4.6	9.6	7.4	5.0	0.068	5DDC3220(1)T5(2)	F5DDC3220(1)T5(2)
0.22	63	4.6	9.6	7.4	5.0	0.1	5DDC3220(1)S5(2)	F5DDC3220(1)S5(2)
0.33	63	4.6	9.6	7.4	5.0	0.00001	5DDC3330(1)U5(2)	F5DDC3330(1)U5(2)
0.33	63	4.6	9.6	7.4	5.0	0.000022	5DDC3330(1)V5(2)	F5DDC3330(1)V5(2)
0.33	63	4.6	9.6	7.4	5.0	0.000047	5DDC3330(1)W5(2)	F5DDC3330(1)W5(2)
0.33	63	4.6	9.6	7.4	5.0	0.000068	5DDC3330(1)X5(2)	F5DDC3330(1)X5(2)
0.33	63	4.6	9.6	7.4	5.0	0.0001	5DDC3330(1)E5(2)	F5DDC3330(1)E5(2)
0.33	63	4.6	9.6	7.4	5.0	0.00022	5DDC3330(1)G5(2)	F5DDC3330(1)G5(2)
0.33	63	4.6	9.6	7.4	5.0	0.00047	5DDC3330(1)A5(2)	F5DDC3330(1)A5(2)
0.33	63	4.6	9.6	7.4	5.0	0.00068	5DDC3330(1)H5(2)	F5DDC3330(1)H5(2)
0.33	63	4.6	9.6	7.4	5.0	0.001	5DDC3330(1)C5(2)	F5DDC3330(1)C5(2)
0.33	63	4.6	9.6	7.4	5.0	0.0022	5DDC3330(1)F5(2)	F5DDC3330(1)F5(2)
0.33	63	4.6	9.6	7.4	5.0	0.0047	5DDC3330(1)B5(2)	F5DDC3330(1)B5(2)
0.33	63	4.6	9.6	7.4	5.0	0.0068	5DDC3330(1)N5(2)	F5DDC3330(1)N5(2)
0.33	63	4.6	9.6	7.4	5.0	0.01	5DDC3330(1)D5(2)	F5DDC3330(1)D5(2)
0.33	63	4.6	9.6	7.4	5.0	0.047	5DDC3330(1)R5(2)	F5DDC3330(1)R5(2)
0.33	63	4.6	9.6	7.4	5.0	0.068	5DDC3330(1)T5(2)	F5DDC3330(1)T5(2)
0.33	63	4.6	9.6	7.4	5.0	0.1	5DDC3330(1)S5(2)	F5DDC3330(1)S5(2)
0.47	63	4.6	9.6	7.4	5.0	0.00001	5DDC3470(1)U5(2)	F5DDC3470(1)U5(2)
0.47	63	4.6	9.6	7.4	5.0	0.000022	5DDC3470(1)V5(2)	F5DDC3470(1)V5(2)
0.47	63	4.6	9.6	7.4	5.0	0.000047	5DDC3470(1)W5(2)	F5DDC3470(1)W5(2)
0.47	63	4.6	9.6	7.4	5.0	0.000068	5DDC3470(1)X5(2)	F5DDC3470(1)X5(2)
0.47	63	4.6	9.6	7.4	5.0	0.0001	5DDC3470(1)E5(2)	F5DDC3470(1)E5(2)
0.47	63	4.6	9.6	7.4	5.0	0.00022	5DDC3470(1)G5(2)	F5DDC3470(1)G5(2)
0.47	63	4.6	9.6	7.4	5.0	0.00047	5DDC3470(1)A5(2)	F5DDC3470(1)A5(2)
0.47	63	4.6	9.6	7.4	5.0	0.00068	5DDC3470(1)H5(2)	F5DDC3470(1)H5(2)
0.47	63	4.6	9.6	7.4	5.0	0.001	5DDC3470(1)C5(2)	F5DDC3470(1)C5(2)
0.47	63	4.6	9.6	7.4	5.0	0.0022	5DDC3470(1)F5(2)	F5DDC3470(1)F5(2)
0.47	63	4.6	9.6	7.4	5.0	0.0047	5DDC3470(1)B5(2)	F5DDC3470(1)B5(2)

(1) Insert lead and packaging code. See Ordering Options Table for available options.

(2) K = 10%, M = 20%.

Table 1 – Ratings & Part Number Reference cont'd

Capacitance Value (µF)	VDC	Max Dimensions in mm			Lead Spacing (p)	Ceramic Cap (µF)	New KEMET Part Number	Legacy Part Number
		B	H	L				
0.47	63	4.6	9.6	7.4	5.0	0.0068	5DDC3470(1)N5(2)	F5DDC3470(1)N5(2)
0.47	63	4.6	9.6	7.4	5.0	0.01	5DDC3470(1)D5(2)	F5DDC3470(1)D5(2)
0.47	63	4.6	9.6	7.4	5.0	0.047	5DDC3470(1)R5(2)	F5DDC3470(1)R5(2)
0.47	63	4.6	9.6	7.4	5.0	0.068	5DDC3470(1)T5(2)	F5DDC3470(1)T5(2)
0.47	63	4.6	9.6	7.4	5.0	0.1	5DDC3470(1)S5(2)	F5DDC3470(1)S5(2)
0.56	63	5.1	10.1	7.5	5.0	0.00001	5DDC3560(1)U6(2)	F5DDC3560(1)U6(2)
0.56	63	5.1	10.1	7.5	5.0	0.000022	5DDC3560(1)V6(2)	F5DDC3560(1)V6(2)
0.56	63	5.1	10.1	7.5	5.0	0.000047	5DDC3560(1)W6(2)	F5DDC3560(1)W6(2)
0.56	63	5.1	10.1	7.5	5.0	0.000068	5DDC3560(1)X6(2)	F5DDC3560(1)X6(2)
0.56	63	5.1	10.1	7.5	5.0	0.0001	5DDC3560(1)E6(2)	F5DDC3560(1)E6(2)
0.56	63	5.1	10.1	7.5	5.0	0.00022	5DDC3560(1)G6(2)	F5DDC3560(1)G6(2)
0.56	63	5.1	10.1	7.5	5.0	0.00047	5DDC3560(1)A6(2)	F5DDC3560(1)A6(2)
0.56	63	5.1	10.1	7.5	5.0	0.00068	5DDC3560(1)H6(2)	F5DDC3560(1)H6(2)
0.56	63	5.1	10.1	7.5	5.0	0.001	5DDC3560(1)C6(2)	F5DDC3560(1)C6(2)
0.56	63	5.1	10.1	7.5	5.0	0.0022	5DDC3560(1)F6(2)	F5DDC3560(1)F6(2)
0.56	63	5.1	10.1	7.5	5.0	0.0047	5DDC3560(1)B6(2)	F5DDC3560(1)B6(2)
0.56	63	5.1	10.1	7.5	5.0	0.0068	5DDC3560(1)N6(2)	F5DDC3560(1)N6(2)
0.56	63	5.1	10.1	7.5	5.0	0.01	5DDC3560(1)D6(2)	F5DDC3560(1)D6(2)
0.56	63	5.1	10.1	7.5	5.0	0.047	5DDC3560(1)R6(2)	F5DDC3560(1)R6(2)
0.56	63	5.1	10.1	7.5	5.0	0.068	5DDC3560(1)T6(2)	F5DDC3560(1)T6(2)
0.56	63	5.1	10.1	7.5	5.0	0.1	5DDC3560(1)S6(2)	F5DDC3560(1)S6(2)
0.68	63	5.1	10.1	7.5	5.0	0.00001	5DDC3680(1)U6(2)	F5DDC3680(1)U6(2)
0.68	63	5.1	10.1	7.5	5.0	0.000022	5DDC3680(1)V6(2)	F5DDC3680(1)V6(2)
0.68	63	5.1	10.1	7.5	5.0	0.000047	5DDC3680(1)W6(2)	F5DDC3680(1)W6(2)
0.68	63	5.1	10.1	7.5	5.0	0.000068	5DDC3680(1)X6(2)	F5DDC3680(1)X6(2)
0.68	63	5.1	10.1	7.5	5.0	0.0001	5DDC3680(1)E6(2)	F5DDC3680(1)E6(2)
0.68	63	5.1	10.1	7.5	5.0	0.00022	5DDC3680(1)G6(2)	F5DDC3680(1)G6(2)
0.68	63	5.1	10.1	7.5	5.0	0.00047	5DDC3680(1)A6(2)	F5DDC3680(1)A6(2)
0.68	63	5.1	10.1	7.5	5.0	0.00068	5DDC3680(1)H6(2)	F5DDC3680(1)H6(2)
0.68	63	5.1	10.1	7.5	5.0	0.001	5DDC3680(1)C6(2)	F5DDC3680(1)C6(2)
0.68	63	5.1	10.1	7.5	5.0	0.0022	5DDC3680(1)F6(2)	F5DDC3680(1)F6(2)
0.68	63	5.1	10.1	7.5	5.0	0.0047	5DDC3680(1)B6(2)	F5DDC3680(1)B6(2)
0.68	63	5.1	10.1	7.5	5.0	0.0068	5DDC3680(1)N6(2)	F5DDC3680(1)N6(2)
0.68	63	5.1	10.1	7.5	5.0	0.01	5DDC3680(1)D6(2)	F5DDC3680(1)D6(2)
0.68	63	5.1	10.1	7.5	5.0	0.047	5DDC3680(1)R6(2)	F5DDC3680(1)R6(2)
0.68	63	5.1	10.1	7.5	5.0	0.068	5DDC3680(1)T6(2)	F5DDC3680(1)T6(2)
0.68	63	5.1	10.1	7.5	5.0	0.1	5DDC3680(1)S6(2)	F5DDC3680(1)S6(2)
1.00	63	5.1	10.1	7.5	5.0	0.00001	5DDC4100(1)U6(2)	F5DDC4100(1)U6(2)
1.00	63	5.1	10.1	7.5	5.0	0.000022	5DDC4100(1)V6(2)	F5DDC4100(1)V6(2)
1.00	63	5.1	10.1	7.5	5.0	0.000047	5DDC4100(1)W6(2)	F5DDC4100(1)W6(2)
1.00	63	5.1	10.1	7.5	5.0	0.000068	5DDC4100(1)X6(2)	F5DDC4100(1)X6(2)
1.00	63	5.1	10.1	7.5	5.0	0.0001	5DDC4100(1)E6(2)	F5DDC4100(1)E6(2)
1.00	63	5.1	10.1	7.5	5.0	0.00022	5DDC4100(1)G6(2)	F5DDC4100(1)G6(2)
1.00	63	5.1	10.1	7.5	5.0	0.00047	5DDC4100(1)A6(2)	F5DDC4100(1)A6(2)
1.00	63	5.1	10.1	7.5	5.0	0.00068	5DDC4100(1)H6(2)	F5DDC4100(1)H6(2)
1.00	63	5.1	10.1	7.5	5.0	0.001	5DDC4100(1)C6(2)	F5DDC4100(1)C6(2)
1.00	63	5.1	10.1	7.5	5.0	0.0022	5DDC4100(1)F6(2)	F5DDC4100(1)F6(2)
1.00	63	5.1	10.1	7.5	5.0	0.0047	5DDC4100(1)B6(2)	F5DDC4100(1)B6(2)
1.00	63	5.1	10.1	7.5	5.0	0.0068	5DDC4100(1)N6(2)	F5DDC4100(1)N6(2)
1.00	63	5.1	10.1	7.5	5.0	0.01	5DDC4100(1)D6(2)	F5DDC4100(1)D6(2)
1.00	63	5.1	10.1	7.5	5.0	0.047	5DDC4100(1)R6(2)	F5DDC4100(1)R6(2)
1.00	63	5.1	10.1	7.5	5.0	0.068	5DDC4100(1)T6(2)	F5DDC4100(1)T6(2)
1.00	63	5.1	10.1	7.5	5.0	0.1	5DDC4100(1)S6(2)	F5DDC4100(1)S6(2)
1.50	63	6.1	11.1	7.5	5.0	0.00001	5DDC4150(1)U6(2)	F5DDC4150(1)U6(2)
1.50	63	6.1	11.1	7.5	5.0	0.000022	5DDC4150(1)V6(2)	F5DDC4150(1)V6(2)
1.50	63	6.1	11.1	7.5	5.0	0.000047	5DDC4150(1)W6(2)	F5DDC4150(1)W6(2)
1.50	63	6.1	11.1	7.5	5.0	0.000068	5DDC4150(1)X6(2)	F5DDC4150(1)X6(2)
1.50	63	6.1	11.1	7.5	5.0	0.0001	5DDC4150(1)E6(2)	F5DDC4150(1)E6(2)
1.50	63	6.1	11.1	7.5	5.0	0.00022	5DDC4150(1)G6(2)	F5DDC4150(1)G6(2)
Capacitance Value (µF)	VDC	B (mm)	H (mm)	L (mm)	Lead Spacing (p)	Ceramic Cap (µF)	New KEMET Part Number	Legacy Part Number

(1) Insert lead and packaging code. See Ordering Options Table for available options.

(2) K = 10%, M = 20%.

Table 1 – Ratings & Part Number Reference cont'd

Capacitance Value (µF)	VDC	Max Dimensions in mm			Lead Spacing (p)	Ceramic Cap (µF)	New KEMET Part Number	Legacy Part Number
		B	H	L				
1.50	63	6.1	11.1	7.5	5.0	0.00047	5DDC4150(1)A6(2)	F5DDC4150(1)A6(2)
1.50	63	6.1	11.1	7.5	5.0	0.00068	5DDC4150(1)H6(2)	F5DDC4150(1)H6(2)
1.50	63	6.1	11.1	7.5	5.0	0.001	5DDC4150(1)C6(2)	F5DDC4150(1)C6(2)
1.50	63	6.1	11.1	7.5	5.0	0.0022	5DDC4150(1)F6(2)	F5DDC4150(1)F6(2)
1.50	63	6.1	11.1	7.5	5.0	0.0047	5DDC4150(1)B6(2)	F5DDC4150(1)B6(2)
1.50	63	6.1	11.1	7.5	5.0	0.0068	5DDC4150(1)N6(2)	F5DDC4150(1)N6(2)
1.50	63	6.1	11.1	7.5	5.0	0.01	5DDC4150(1)D6(2)	F5DDC4150(1)D6(2)
1.50	63	6.1	11.1	7.5	5.0	0.047	5DDC4150(1)R6(2)	F5DDC4150(1)R6(2)
1.50	63	6.1	11.1	7.5	5.0	0.068	5DDC4150(1)T6(2)	F5DDC4150(1)T6(2)
1.50	63	6.1	11.1	7.5	5.0	0.1	5DDC4150(1)S6(2)	F5DDC4150(1)S6(2)
1.80	63	6.1	11.1	7.5	5.0	0.1	5DDC4180(1)S7(2)	F5DDC4180(1)S7(2)
1.80	63	6.1	11.1	7.5	5.0	0.000022	5DDC4180(1)V7(2)	F5DDC4180(1)V7(2)
1.80	63	6.1	11.1	7.5	5.0	0.000047	5DDC4180(1)W7(2)	F5DDC4180(1)W7(2)
1.80	63	6.1	11.1	7.5	5.0	0.000068	5DDC4180(1)X7(2)	F5DDC4180(1)X7(2)
1.80	63	6.1	11.1	7.5	5.0	0.0001	5DDC4180(1)E7(2)	F5DDC4180(1)E7(2)
1.80	63	6.1	11.1	7.5	5.0	0.00022	5DDC4180(1)G7(2)	F5DDC4180(1)G7(2)
1.80	63	6.1	11.1	7.5	5.0	0.00047	5DDC4180(1)A7(2)	F5DDC4180(1)A7(2)
1.80	63	6.1	11.1	7.5	5.0	0.00068	5DDC4180(1)H7(2)	F5DDC4180(1)H7(2)
1.80	63	6.1	11.1	7.5	5.0	0.001	5DDC4180(1)C7(2)	F5DDC4180(1)C7(2)
1.80	63	6.1	11.1	7.5	5.0	0.0022	5DDC4180(1)F7(2)	F5DDC4180(1)F7(2)
1.80	63	6.1	11.1	7.5	5.0	0.0047	5DDC4180(1)B7(2)	F5DDC4180(1)B7(2)
1.80	63	6.1	11.1	7.5	5.0	0.0068	5DDC4180(1)N7(2)	F5DDC4180(1)N7(2)
1.80	63	6.1	11.1	7.5	5.0	0.01	5DDC4180(1)D7(2)	F5DDC4180(1)D7(2)
1.80	63	6.1	11.1	7.5	5.0	0.047	5DDC4180(1)R7(2)	F5DDC4180(1)R7(2)
1.80	63	6.1	11.1	7.5	5.0	0.068	5DDC4180(1)T7(2)	F5DDC4180(1)T7(2)
1.80	63	6.1	11.1	7.5	5.0	0.00001	5DDC4180(1)U7(2)	F5DDC4180(1)U7(2)
2.20	63	6.1	11.1	7.5	5.0	0.1	5DDC4220(1)S7(2)	F5DDC4220(1)S7(2)
2.20	63	6.1	11.1	7.5	5.0	0.000022	5DDC4220(1)V7(2)	F5DDC4220(1)V7(2)
2.20	63	6.1	11.1	7.5	5.0	0.000047	5DDC4220(1)W7(2)	F5DDC4220(1)W7(2)
2.20	63	6.1	11.1	7.5	5.0	0.000068	5DDC4220(1)X7(2)	F5DDC4220(1)X7(2)
2.20	63	6.1	11.1	7.5	5.0	0.0001	5DDC4220(1)E7(2)	F5DDC4220(1)E7(2)
2.20	63	6.1	11.1	7.5	5.0	0.00022	5DDC4220(1)G7(2)	F5DDC4220(1)G7(2)
2.20	63	6.1	11.1	7.5	5.0	0.00047	5DDC4220(1)A7(2)	F5DDC4220(1)A7(2)
2.20	63	6.1	11.1	7.5	5.0	0.00068	5DDC4220(1)H7(2)	F5DDC4220(1)H7(2)
2.20	63	6.1	11.1	7.5	5.0	0.001	5DDC4220(1)C7(2)	F5DDC4220(1)C7(2)
2.20	63	6.1	11.1	7.5	5.0	0.0022	5DDC4220(1)F7(2)	F5DDC4220(1)F7(2)
2.20	63	6.1	11.1	7.5	5.0	0.0047	5DDC4220(1)B7(2)	F5DDC4220(1)B7(2)
2.20	63	6.1	11.1	7.5	5.0	0.0068	5DDC4220(1)N7(2)	F5DDC4220(1)N7(2)
2.20	63	6.1	11.1	7.5	5.0	0.01	5DDC4220(1)D7(2)	F5DDC4220(1)D7(2)
2.20	63	6.1	11.1	7.5	5.0	0.047	5DDC4220(1)R7(2)	F5DDC4220(1)R7(2)
2.20	63	6.1	11.1	7.5	5.0	0.068	5DDC4220(1)T7(2)	F5DDC4220(1)T7(2)
2.20	63	6.1	11.1	7.5	5.0	0.00001	5DDC4220(1)U7(2)	F5DDC4220(1)U7(2)
0.10	100	4.6	9.6	7.4	5.0	0.00001	5DEC3100(1)U5(2)	F5DEC3100(1)U5(2)
0.10	100	4.6	9.6	7.4	5.0	0.000022	5DEC3100(1)V5(2)	F5DEC3100(1)V5(2)
0.10	100	4.6	9.6	7.4	5.0	0.000047	5DEC3100(1)W5(2)	F5DEC3100(1)W5(2)
0.10	100	4.6	9.6	7.4	5.0	0.000068	5DEC3100(1)X5(2)	F5DEC3100(1)X5(2)
0.10	100	4.6	9.6	7.4	5.0	0.0001	5DEC3100(1)E5(2)	F5DEC3100(1)E5(2)
0.10	100	4.6	9.6	7.4	5.0	0.00022	5DEC3100(1)G5(2)	F5DEC3100(1)G5(2)
0.10	100	4.6	9.6	7.4	5.0	0.00047	5DEC3100(1)A5(2)	F5DEC3100(1)A5(2)
0.10	100	4.6	9.6	7.4	5.0	0.00068	5DEC3100(1)H5(2)	F5DEC3100(1)H5(2)
0.10	100	4.6	9.6	7.4	5.0	0.001	5DEC3100(1)C5(2)	F5DEC3100(1)C5(2)
0.10	100	4.6	9.6	7.4	5.0	0.0022	5DEC3100(1)F5(2)	F5DEC3100(1)F5(2)
0.10	100	4.6	9.6	7.4	5.0	0.0047	5DEC3100(1)B5(2)	F5DEC3100(1)B5(2)
0.10	100	4.6	9.6	7.4	5.0	0.0068	5DEC3100(1)N5(2)	F5DEC3100(1)N5(2)
0.10	100	4.6	9.6	7.4	5.0	0.01	5DEC3100(1)D5(2)	F5DEC3100(1)D5(2)
0.10	100	4.6	9.6	7.4	5.0	0.047	5DEC3100(1)R5(2)	F5DEC3100(1)R5(2)
0.10	100	4.6	9.6	7.4	5.0	0.068	5DEC3100(1)T5(2)	F5DEC3100(1)T5(2)
0.10	100	4.6	9.6	7.4	5.0	0.1	5DEC3100(1)S5(2)	F5DEC3100(1)S5(2)
0.22	100	4.6	9.6	7.4	5.0	0.00001	5DEC3220(1)U5(2)	F5DEC3220(1)U5(2)
Capacitance Value (µF)	VDC	B (mm)	H (mm)	L (mm)	Lead Spacing (p)	Ceramic Cap (µF)	New KEMET Part Number	Legacy Part Number

(1) Insert lead and packaging code. See Ordering Options Table for available options.

(2) K = 10%, M = 20%.

Table 1 – Ratings & Part Number Reference cont'd

Capacitance Value (µF)	VDC	Max Dimensions in mm			Lead Spacing (p)	Ceramic Cap (µF)	New KEMET Part Number	Legacy Part Number
		B	H	L				
0.22	100	4.6	9.6	7.4	5.0	0.000022	5DEC3220(1)V5(2)	F5DEC3220(1)V5(2)
0.22	100	4.6	9.6	7.4	5.0	0.000047	5DEC3220(1)W5(2)	F5DEC3220(1)W5(2)
0.22	100	4.6	9.6	7.4	5.0	0.000068	5DEC3220(1)X5(2)	F5DEC3220(1)X5(2)
0.22	100	4.6	9.6	7.4	5.0	0.0001	5DEC3220(1)E5(2)	F5DEC3220(1)E5(2)
0.22	100	4.6	9.6	7.4	5.0	0.00022	5DEC3220(1)G5(2)	F5DEC3220(1)G5(2)
0.22	100	4.6	9.6	7.4	5.0	0.00047	5DEC3220(1)A5(2)	F5DEC3220(1)A5(2)
0.22	100	4.6	9.6	7.4	5.0	0.00068	5DEC3220(1)H5(2)	F5DEC3220(1)H5(2)
0.22	100	4.6	9.6	7.4	5.0	0.001	5DEC3220(1)C5(2)	F5DEC3220(1)C5(2)
0.22	100	4.6	9.6	7.4	5.0	0.0022	5DEC3220(1)F5(2)	F5DEC3220(1)F5(2)
0.22	100	4.6	9.6	7.4	5.0	0.0047	5DEC3220(1)B5(2)	F5DEC3220(1)B5(2)
0.22	100	4.6	9.6	7.4	5.0	0.0068	5DEC3220(1)N5(2)	F5DEC3220(1)N5(2)
0.22	100	4.6	9.6	7.4	5.0	0.01	5DEC3220(1)D5(2)	F5DEC3220(1)D5(2)
0.22	100	4.6	9.6	7.4	5.0	0.047	5DEC3220(1)R5(2)	F5DEC3220(1)R5(2)
0.22	100	4.6	9.6	7.4	5.0	0.068	5DEC3220(1)T5(2)	F5DEC3220(1)T5(2)
0.22	100	4.6	9.6	7.4	5.0	0.1	5DEC3220(1)S5(2)	F5DEC3220(1)S5(2)
0.33	100	4.6	9.6	7.4	5.0	0.00001	5DEC3330(1)U5(2)	F5DEC3330(1)U5(2)
0.33	100	4.6	9.6	7.4	5.0	0.000022	5DEC3330(1)V5(2)	F5DEC3330(1)V5(2)
0.33	100	4.6	9.6	7.4	5.0	0.000047	5DEC3330(1)W5(2)	F5DEC3330(1)W5(2)
0.33	100	4.6	9.6	7.4	5.0	0.000068	5DEC3330(1)X5(2)	F5DEC3330(1)X5(2)
0.33	100	4.6	9.6	7.4	5.0	0.0001	5DEC3330(1)E5(2)	F5DEC3330(1)E5(2)
0.33	100	4.6	9.6	7.4	5.0	0.00022	5DEC3330(1)G5(2)	F5DEC3330(1)G5(2)
0.33	100	4.6	9.6	7.4	5.0	0.00047	5DEC3330(1)A5(2)	F5DEC3330(1)A5(2)
0.33	100	4.6	9.6	7.4	5.0	0.00068	5DEC3330(1)H5(2)	F5DEC3330(1)H5(2)
0.33	100	4.6	9.6	7.4	5.0	0.001	5DEC3330(1)C5(2)	F5DEC3330(1)C5(2)
0.33	100	4.6	9.6	7.4	5.0	0.0022	5DEC3330(1)F5(2)	F5DEC3330(1)F5(2)
0.33	100	4.6	9.6	7.4	5.0	0.0047	5DEC3330(1)B5(2)	F5DEC3330(1)B5(2)
0.33	100	4.6	9.6	7.4	5.0	0.0068	5DEC3330(1)N5(2)	F5DEC3330(1)N5(2)
0.33	100	4.6	9.6	7.4	5.0	0.01	5DEC3330(1)D5(2)	F5DEC3330(1)D5(2)
0.33	100	4.6	9.6	7.4	5.0	0.047	5DEC3330(1)R5(2)	F5DEC3330(1)R5(2)
0.33	100	4.6	9.6	7.4	5.0	0.068	5DEC3330(1)T5(2)	F5DEC3330(1)T5(2)
0.33	100	4.6	9.6	7.4	5.0	0.1	5DEC3330(1)S5(2)	F5DEC3330(1)S5(2)
0.47	100	4.6	9.6	7.4	5.0	0.00001	5DEC3470(1)U5(2)	F5DEC3470(1)U5(2)
0.47	100	4.6	9.6	7.4	5.0	0.000022	5DEC3470(1)V5(2)	F5DEC3470(1)V5(2)
0.47	100	4.6	9.6	7.4	5.0	0.000047	5DEC3470(1)W5(2)	F5DEC3470(1)W5(2)
0.47	100	4.6	9.6	7.4	5.0	0.000068	5DEC3470(1)X5(2)	F5DEC3470(1)X5(2)
0.47	100	4.6	9.6	7.4	5.0	0.0001	5DEC3470(1)E5(2)	F5DEC3470(1)E5(2)
0.47	100	4.6	9.6	7.4	5.0	0.00022	5DEC3470(1)G5(2)	F5DEC3470(1)G5(2)
0.47	100	4.6	9.6	7.4	5.0	0.00047	5DEC3470(1)A5(2)	F5DEC3470(1)A5(2)
0.47	100	4.6	9.6	7.4	5.0	0.00068	5DEC3470(1)H5(2)	F5DEC3470(1)H5(2)
0.47	100	4.6	9.6	7.4	5.0	0.001	5DEC3470(1)C5(2)	F5DEC3470(1)C5(2)
0.47	100	4.6	9.6	7.4	5.0	0.0022	5DEC3470(1)F5(2)	F5DEC3470(1)F5(2)
0.47	100	4.6	9.6	7.4	5.0	0.0047	5DEC3470(1)B5(2)	F5DEC3470(1)B5(2)
0.47	100	4.6	9.6	7.4	5.0	0.0068	5DEC3470(1)N5(2)	F5DEC3470(1)N5(2)
0.47	100	4.6	9.6	7.4	5.0	0.01	5DEC3470(1)D5(2)	F5DEC3470(1)D5(2)
0.47	100	4.6	9.6	7.4	5.0	0.047	5DEC3470(1)R5(2)	F5DEC3470(1)R5(2)
0.47	100	4.6	9.6	7.4	5.0	0.068	5DEC3470(1)T5(2)	F5DEC3470(1)T5(2)
0.47	100	4.6	9.6	7.4	5.0	0.1	5DEC3470(1)S5(2)	F5DEC3470(1)S5(2)
0.56	100	5.1	10.1	7.5	5.0	0.00001	5DEC3560(1)U6(2)	F5DEC3560(1)U6(2)
0.56	100	5.1	10.1	7.5	5.0	0.000022	5DEC3560(1)V6(2)	F5DEC3560(1)V6(2)
0.56	100	5.1	10.1	7.5	5.0	0.000047	5DEC3560(1)W6(2)	F5DEC3560(1)W6(2)
0.56	100	5.1	10.1	7.5	5.0	0.000068	5DEC3560(1)X6(2)	F5DEC3560(1)X6(2)
0.56	100	5.1	10.1	7.5	5.0	0.0001	5DEC3560(1)E6(2)	F5DEC3560(1)E6(2)
0.56	100	5.1	10.1	7.5	5.0	0.00022	5DEC3560(1)G6(2)	F5DEC3560(1)G6(2)
0.56	100	5.1	10.1	7.5	5.0	0.00047	5DEC3560(1)A6(2)	F5DEC3560(1)A6(2)
0.56	100	5.1	10.1	7.5	5.0	0.00068	5DEC3560(1)H6(2)	F5DEC3560(1)H6(2)
0.56	100	5.1	10.1	7.5	5.0	0.001	5DEC3560(1)C6(2)	F5DEC3560(1)C6(2)
0.56	100	5.1	10.1	7.5	5.0	0.0022	5DEC3560(1)F6(2)	F5DEC3560(1)F6(2)
0.56	100	5.1	10.1	7.5	5.0	0.0047	5DEC3560(1)B6(2)	F5DEC3560(1)B6(2)
0.56	100	5.1	10.1	7.5	5.0	0.0068	5DEC3560(1)N6(2)	F5DEC3560(1)N6(2)
Capacitance Value (µF)	VDC	B (mm)	H (mm)	L (mm)	Lead Spacing (p)	Ceramic Cap (µF)	New KEMET Part Number	Legacy Part Number

(1) Insert lead and packaging code. See Ordering Options Table for available options.

(2) K = 10%, M = 20%.

Table 1 – Ratings & Part Number Reference cont'd

Capacitance Value (μF)	VDC	Max Dimensions in mm			Lead Spacing (p)	Ceramic Cap (μF)	New KEMET Part Number	Legacy Part Number
		B	H	L				
0.56	100	5.1	10.1	7.5	5.0	0.01	5DEC3560(1)D6(2)	F5DEC3560(1)D6(2)
0.56	100	5.1	10.1	7.5	5.0	0.047	5DEC3560(1)R6(2)	F5DEC3560(1)R6(2)
0.56	100	5.1	10.1	7.5	5.0	0.068	5DEC3560(1)T6(2)	F5DEC3560(1)T6(2)
0.56	100	5.1	10.1	7.5	5.0	0.1	5DEC3560(1)S6(2)	F5DEC3560(1)S6(2)
0.68	100	5.1	10.1	7.5	5.0	0.00001	5DEC3680(1)U6(2)	F5DEC3680(1)U6(2)
0.68	100	5.1	10.1	7.5	5.0	0.000022	5DEC3680(1)V6(2)	F5DEC3680(1)V6(2)
0.68	100	5.1	10.1	7.5	5.0	0.000047	5DEC3680(1)W6(2)	F5DEC3680(1)W6(2)
0.68	100	5.1	10.1	7.5	5.0	0.000068	5DEC3680(1)X6(2)	F5DEC3680(1)X6(2)
0.68	100	5.1	10.1	7.5	5.0	0.0001	5DEC3680(1)E6(2)	F5DEC3680(1)E6(2)
0.68	100	5.1	10.1	7.5	5.0	0.00022	5DEC3680(1)G6(2)	F5DEC3680(1)G6(2)
0.68	100	5.1	10.1	7.5	5.0	0.00047	5DEC3680(1)A6(2)	F5DEC3680(1)A6(2)
0.68	100	5.1	10.1	7.5	5.0	0.00068	5DEC3680(1)H6(2)	F5DEC3680(1)H6(2)
0.68	100	5.1	10.1	7.5	5.0	0.001	5DEC3680(1)C6(2)	F5DEC3680(1)C6(2)
0.68	100	5.1	10.1	7.5	5.0	0.0022	5DEC3680(1)F6(2)	F5DEC3680(1)F6(2)
0.68	100	5.1	10.1	7.5	5.0	0.0047	5DEC3680(1)B6(2)	F5DEC3680(1)B6(2)
0.68	100	5.1	10.1	7.5	5.0	0.0068	5DEC3680(1)N6(2)	F5DEC3680(1)N6(2)
0.68	100	5.1	10.1	7.5	5.0	0.01	5DEC3680(1)D6(2)	F5DEC3680(1)D6(2)
0.68	100	5.1	10.1	7.5	5.0	0.047	5DEC3680(1)R6(2)	F5DEC3680(1)R6(2)
0.68	100	5.1	10.1	7.5	5.0	0.068	5DEC3680(1)T6(2)	F5DEC3680(1)T6(2)
0.68	100	5.1	10.1	7.5	5.0	0.1	5DEC3680(1)S6(2)	F5DEC3680(1)S6(2)
1.00	100	5.1	10.1	7.5	5.0	0.00001	5DEC4100(1)U6(2)	F5DEC4100(1)U6(2)
1.00	100	5.1	10.1	7.5	5.0	0.000022	5DEC4100(1)V6(2)	F5DEC4100(1)V6(2)
1.00	100	5.1	10.1	7.5	5.0	0.000047	5DEC4100(1)W6(2)	F5DEC4100(1)W6(2)
1.00	100	5.1	10.1	7.5	5.0	0.000068	5DEC4100(1)X6(2)	F5DEC4100(1)X6(2)
1.00	100	5.1	10.1	7.5	5.0	0.0001	5DEC4100(1)E6(2)	F5DEC4100(1)E6(2)
1.00	100	5.1	10.1	7.5	5.0	0.00022	5DEC4100(1)G6(2)	F5DEC4100(1)G6(2)
1.00	100	5.1	10.1	7.5	5.0	0.00047	5DEC4100(1)A6(2)	F5DEC4100(1)A6(2)
1.00	100	5.1	10.1	7.5	5.0	0.00068	5DEC4100(1)H6(2)	F5DEC4100(1)H6(2)
1.00	100	5.1	10.1	7.5	5.0	0.001	5DEC4100(1)C6(2)	F5DEC4100(1)C6(2)
1.00	100	5.1	10.1	7.5	5.0	0.0022	5DEC4100(1)F6(2)	F5DEC4100(1)F6(2)
1.00	100	5.1	10.1	7.5	5.0	0.0047	5DEC4100(1)B6(2)	F5DEC4100(1)B6(2)
1.00	100	5.1	10.1	7.5	5.0	0.0068	5DEC4100(1)N6(2)	F5DEC4100(1)N6(2)
1.00	100	5.1	10.1	7.5	5.0	0.01	5DEC4100(1)D6(2)	F5DEC4100(1)D6(2)
1.00	100	5.1	10.1	7.5	5.0	0.047	5DEC4100(1)R6(2)	F5DEC4100(1)R6(2)
1.00	100	5.1	10.1	7.5	5.0	0.068	5DEC4100(1)T6(2)	F5DEC4100(1)T6(2)
1.00	100	5.1	10.1	7.5	5.0	0.1	5DEC4100(1)S6(2)	F5DEC4100(1)S6(2)
1.50	100	6.1	11.1	7.5	5.0	0.00001	5DEC4150(1)U6(2)	F5DEC4150(1)U6(2)
1.50	100	6.1	11.1	7.5	5.0	0.000022	5DEC4150(1)V6(2)	F5DEC4150(1)V6(2)
1.50	100	6.1	11.1	7.5	5.0	0.000047	5DEC4150(1)W6(2)	F5DEC4150(1)W6(2)
1.50	100	6.1	11.1	7.5	5.0	0.000068	5DEC4150(1)X6(2)	F5DEC4150(1)X6(2)
1.50	100	6.1	11.1	7.5	5.0	0.0001	5DEC4150(1)E6(2)	F5DEC4150(1)E6(2)
1.50	100	6.1	11.1	7.5	5.0	0.00022	5DEC4150(1)G6(2)	F5DEC4150(1)G6(2)
1.50	100	6.1	11.1	7.5	5.0	0.00047	5DEC4150(1)A6(2)	F5DEC4150(1)A6(2)
1.50	100	6.1	11.1	7.5	5.0	0.00068	5DEC4150(1)H6(2)	F5DEC4150(1)H6(2)
1.50	100	6.1	11.1	7.5	5.0	0.001	5DEC4150(1)C6(2)	F5DEC4150(1)C6(2)
1.50	100	6.1	11.1	7.5	5.0	0.0022	5DEC4150(1)F6(2)	F5DEC4150(1)F6(2)
1.50	100	6.1	11.1	7.5	5.0	0.0047	5DEC4150(1)B6(2)	F5DEC4150(1)B6(2)
1.50	100	6.1	11.1	7.5	5.0	0.0068	5DEC4150(1)N6(2)	F5DEC4150(1)N6(2)
1.50	100	6.1	11.1	7.5	5.0	0.01	5DEC4150(1)D6(2)	F5DEC4150(1)D6(2)
1.50	100	6.1	11.1	7.5	5.0	0.047	5DEC4150(1)R6(2)	F5DEC4150(1)R6(2)
1.50	100	6.1	11.1	7.5	5.0	0.068	5DEC4150(1)T6(2)	F5DEC4150(1)T6(2)
1.50	100	6.1	11.1	7.5	5.0	0.1	5DEC4150(1)S6(2)	F5DEC4150(1)S6(2)
0.10	63	5.2	11.1	13.4	10.0	0.00001	5DDF3100(1)U2(2)	F5DDF3100(1)U2(2)
0.10	63	5.2	11.1	13.4	10.0	0.000022	5DDF3100(1)V2(2)	F5DDF3100(1)V2(2)
0.10	63	5.2	11.1	13.4	10.0	0.000047	5DDF3100(1)W2(2)	F5DDF3100(1)W2(2)
0.10	63	5.2	11.1	13.4	10.0	0.000068	5DDF3100(1)X2(2)	F5DDF3100(1)X2(2)
0.10	63	5.2	11.1	13.4	10.0	0.0001	5DDF3100(1)E2(2)	F5DDF3100(1)E2(2)
0.10	63	5.2	11.1	13.4	10.0	0.00022	5DDF3100(1)G2(2)	F5DDF3100(1)G2(2)
0.10	63	5.2	11.1	13.4	10.0	0.00047	5DDF3100(1)A2(2)	F5DDF3100(1)A2(2)
Capacitance Value (μF)	VDC	B (mm)	H (mm)	L (mm)	Lead Spacing (p)	Ceramic Cap (μF)	New KEMET Part Number	Legacy Part Number

(1) Insert lead and packaging code. See Ordering Options Table for available options.

(2) K = 10%, M = 20%.

Table 1 – Ratings & Part Number Reference cont'd

Capacitance Value (µF)	VDC	Max Dimensions in mm			Lead Spacing (p)	Ceramic Cap (µF)	New KEMET Part Number	Legacy Part Number
		B	H	L				
0.10	63	5.2	11.1	13.4	10.0	0.00068	5DDF3100(1)H2(2)	F5DDF3100(1)H2(2)
0.10	63	5.2	11.1	13.4	10.0	0.001	5DDF3100(1)C2(2)	F5DDF3100(1)C2(2)
0.10	63	5.2	11.1	13.4	10.0	0.0022	5DDF3100(1)F2(2)	F5DDF3100(1)F2(2)
0.10	63	5.2	11.1	13.4	10.0	0.0047	5DDF3100(1)B2(2)	F5DDF3100(1)B2(2)
0.10	63	5.2	11.1	13.4	10.0	0.0068	5DDF3100(1)N2(2)	F5DDF3100(1)N2(2)
0.10	63	5.2	11.1	13.4	10.0	0.01	5DDF3100(1)D2(2)	F5DDF3100(1)D2(2)
0.10	63	5.2	11.1	13.4	10.0	0.047	5DDF3100(1)R2(2)	F5DDF3100(1)R2(2)
0.10	63	5.2	11.1	13.4	10.0	0.068	5DDF3100(1)T2(2)	F5DDF3100(1)T2(2)
0.10	63	5.2	11.1	13.4	10.0	0.1	5DDF3100(1)S2(2)	F5DDF3100(1)S2(2)
0.22	63	5.2	11.1	13.4	10.0	0.00001	5DDF3220(1)U2(2)	F5DDF3220(1)U2(2)
0.22	63	5.2	11.1	13.4	10.0	0.000022	5DDF3220(1)V2(2)	F5DDF3220(1)V2(2)
0.22	63	5.2	11.1	13.4	10.0	0.000047	5DDF3220(1)W2(2)	F5DDF3220(1)W2(2)
0.22	63	5.2	11.1	13.4	10.0	0.000068	5DDF3220(1)X2(2)	F5DDF3220(1)X2(2)
0.22	63	5.2	11.1	13.4	10.0	0.0001	5DDF3220(1)E2(2)	F5DDF3220(1)E2(2)
0.22	63	5.2	11.1	13.4	10.0	0.00022	5DDF3220(1)G2(2)	F5DDF3220(1)G2(2)
0.22	63	5.2	11.1	13.4	10.0	0.00047	5DDF3220(1)A2(2)	F5DDF3220(1)A2(2)
0.22	63	5.2	11.1	13.4	10.0	0.00068	5DDF3220(1)H2(2)	F5DDF3220(1)H2(2)
0.22	63	5.2	11.1	13.4	10.0	0.001	5DDF3220(1)C2(2)	F5DDF3220(1)C2(2)
0.22	63	5.2	11.1	13.4	10.0	0.0022	5DDF3220(1)F2(2)	F5DDF3220(1)F2(2)
0.22	63	5.2	11.1	13.4	10.0	0.0047	5DDF3220(1)B2(2)	F5DDF3220(1)B2(2)
0.22	63	5.2	11.1	13.4	10.0	0.0068	5DDF3220(1)N2(2)	F5DDF3220(1)N2(2)
0.22	63	5.2	11.1	13.4	10.0	0.01	5DDF3220(1)D2(2)	F5DDF3220(1)D2(2)
0.22	63	5.2	11.1	13.4	10.0	0.047	5DDF3220(1)R2(2)	F5DDF3220(1)R2(2)
0.22	63	5.2	11.1	13.4	10.0	0.068	5DDF3220(1)T2(2)	F5DDF3220(1)T2(2)
0.22	63	5.2	11.1	13.4	10.0	0.1	5DDF3220(1)S2(2)	F5DDF3220(1)S2(2)
0.33	63	5.2	11.1	13.4	10.0	0.00001	5DDF3330(1)U2(2)	F5DDF3330(1)U2(2)
0.33	63	5.2	11.1	13.4	10.0	0.000022	5DDF3330(1)V2(2)	F5DDF3330(1)V2(2)
0.33	63	5.2	11.1	13.4	10.0	0.000047	5DDF3330(1)W2(2)	F5DDF3330(1)W2(2)
0.33	63	5.2	11.1	13.4	10.0	0.000068	5DDF3330(1)X2(2)	F5DDF3330(1)X2(2)
0.33	63	5.2	11.1	13.4	10.0	0.0001	5DDF3330(1)E2(2)	F5DDF3330(1)E2(2)
0.33	63	5.2	11.1	13.4	10.0	0.00022	5DDF3330(1)G2(2)	F5DDF3330(1)G2(2)
0.33	63	5.2	11.1	13.4	10.0	0.00047	5DDF3330(1)A2(2)	F5DDF3330(1)A2(2)
0.33	63	5.2	11.1	13.4	10.0	0.00068	5DDF3330(1)H2(2)	F5DDF3330(1)H2(2)
0.33	63	5.2	11.1	13.4	10.0	0.001	5DDF3330(1)C2(2)	F5DDF3330(1)C2(2)
0.33	63	5.2	11.1	13.4	10.0	0.0022	5DDF3330(1)F2(2)	F5DDF3330(1)F2(2)
0.33	63	5.2	11.1	13.4	10.0	0.0047	5DDF3330(1)B2(2)	F5DDF3330(1)B2(2)
0.33	63	5.2	11.1	13.4	10.0	0.0068	5DDF3330(1)N2(2)	F5DDF3330(1)N2(2)
0.33	63	5.2	11.1	13.4	10.0	0.01	5DDF3330(1)D2(2)	F5DDF3330(1)D2(2)
0.33	63	5.2	11.1	13.4	10.0	0.047	5DDF3330(1)R2(2)	F5DDF3330(1)R2(2)
0.33	63	5.2	11.1	13.4	10.0	0.068	5DDF3330(1)T2(2)	F5DDF3330(1)T2(2)
0.33	63	5.2	11.1	13.4	10.0	0.1	5DDF3330(1)S2(2)	F5DDF3330(1)S2(2)
0.47	63	5.2	11.1	13.4	10.0	0.00001	5DDF3470(1)U2(2)	F5DDF3470(1)U2(2)
0.47	63	5.2	11.1	13.4	10.0	0.000022	5DDF3470(1)V2(2)	F5DDF3470(1)V2(2)
0.47	63	5.2	11.1	13.4	10.0	0.000047	5DDF3470(1)W2(2)	F5DDF3470(1)W2(2)
0.47	63	5.2	11.1	13.4	10.0	0.000068	5DDF3470(1)X2(2)	F5DDF3470(1)X2(2)
0.47	63	5.2	11.1	13.4	10.0	0.0001	5DDF3470(1)E2(2)	F5DDF3470(1)E2(2)
0.47	63	5.2	11.1	13.4	10.0	0.00022	5DDF3470(1)G2(2)	F5DDF3470(1)G2(2)
0.47	63	5.2	11.1	13.4	10.0	0.00047	5DDF3470(1)A2(2)	F5DDF3470(1)A2(2)
0.47	63	5.2	11.1	13.4	10.0	0.00068	5DDF3470(1)H2(2)	F5DDF3470(1)H2(2)
0.47	63	5.2	11.1	13.4	10.0	0.001	5DDF3470(1)C2(2)	F5DDF3470(1)C2(2)
0.47	63	5.2	11.1	13.4	10.0	0.0022	5DDF3470(1)F2(2)	F5DDF3470(1)F2(2)
0.47	63	5.2	11.1	13.4	10.0	0.0047	5DDF3470(1)B2(2)	F5DDF3470(1)B2(2)
0.47	63	5.2	11.1	13.4	10.0	0.0068	5DDF3470(1)N2(2)	F5DDF3470(1)N2(2)
0.47	63	5.2	11.1	13.4	10.0	0.01	5DDF3470(1)D2(2)	F5DDF3470(1)D2(2)
0.47	63	5.2	11.1	13.4	10.0	0.047	5DDF3470(1)R2(2)	F5DDF3470(1)R2(2)
0.47	63	5.2	11.1	13.4	10.0	0.068	5DDF3470(1)T2(2)	F5DDF3470(1)T2(2)
0.47	63	5.2	11.1	13.4	10.0	0.1	5DDF3470(1)S2(2)	F5DDF3470(1)S2(2)
0.56	63	5.2	11.1	13.4	10.0	0.00001	5DDF3560(1)U2(2)	F5DDF3560(1)U2(2)
0.56	63	5.2	11.1	13.4	10.0	0.000022	5DDF3560(1)V2(2)	F5DDF3560(1)V2(2)
Capacitance Value (µF)	VDC	B (mm)	H (mm)	L (mm)	Lead Spacing (p)	Ceramic Cap (µF)	New KEMET Part Number	Legacy Part Number

(1) Insert lead and packaging code. See Ordering Options Table for available options.

(2) K = 10%, M = 20%.

Table 1 – Ratings & Part Number Reference cont'd

Capacitance Value (µF)	VDC	Max Dimensions in mm			Lead Spacing (p)	Ceramic Cap (µF)	New KEMET Part Number	Legacy Part Number
		B	H	L				
0.56	63	5.2	11.1	13.4	10.0	0.000047	5DDF3560(1)W2(2)	F5DDF3560(1)W2(2)
0.56	63	5.2	11.1	13.4	10.0	0.000068	5DDF3560(1)X2(2)	F5DDF3560(1)X2(2)
0.56	63	5.2	11.1	13.4	10.0	0.0001	5DDF3560(1)E2(2)	F5DDF3560(1)E2(2)
0.56	63	5.2	11.1	13.4	10.0	0.00022	5DDF3560(1)G2(2)	F5DDF3560(1)G2(2)
0.56	63	5.2	11.1	13.4	10.0	0.00047	5DDF3560(1)A2(2)	F5DDF3560(1)A2(2)
0.56	63	5.2	11.1	13.4	10.0	0.00068	5DDF3560(1)H2(2)	F5DDF3560(1)H2(2)
0.56	63	5.2	11.1	13.4	10.0	0.001	5DDF3560(1)C2(2)	F5DDF3560(1)C2(2)
0.56	63	5.2	11.1	13.4	10.0	0.0022	5DDF3560(1)F2(2)	F5DDF3560(1)F2(2)
0.56	63	5.2	11.1	13.4	10.0	0.0047	5DDF3560(1)B2(2)	F5DDF3560(1)B2(2)
0.56	63	5.2	11.1	13.4	10.0	0.0068	5DDF3560(1)N2(2)	F5DDF3560(1)N2(2)
0.56	63	5.2	11.1	13.4	10.0	0.01	5DDF3560(1)D2(2)	F5DDF3560(1)D2(2)
0.56	63	5.2	11.1	13.4	10.0	0.047	5DDF3560(1)R2(2)	F5DDF3560(1)R2(2)
0.56	63	5.2	11.1	13.4	10.0	0.068	5DDF3560(1)T2(2)	F5DDF3560(1)T2(2)
0.56	63	5.2	11.1	13.4	10.0	0.1	5DDF3560(1)S2(2)	F5DDF3560(1)S2(2)
1.00	63	5.2	11.1	13.4	10.0	0.00001	5DDF4100(1)U2(2)	F5DDF4100(1)U2(2)
1.00	63	5.2	11.1	13.4	10.0	0.000022	5DDF4100(1)V2(2)	F5DDF4100(1)V2(2)
1.00	63	5.2	11.1	13.4	10.0	0.000047	5DDF4100(1)W2(2)	F5DDF4100(1)W2(2)
1.00	63	5.2	11.1	13.4	10.0	0.000068	5DDF4100(1)X2(2)	F5DDF4100(1)X2(2)
1.00	63	5.2	11.1	13.4	10.0	0.0001	5DDF4100(1)E2(2)	F5DDF4100(1)E2(2)
1.00	63	5.2	11.1	13.4	10.0	0.00022	5DDF4100(1)G2(2)	F5DDF4100(1)G2(2)
1.00	63	5.2	11.1	13.4	10.0	0.00047	5DDF4100(1)A2(2)	F5DDF4100(1)A2(2)
1.00	63	5.2	11.1	13.4	10.0	0.00068	5DDF4100(1)H2(2)	F5DDF4100(1)H2(2)
1.00	63	5.2	11.1	13.4	10.0	0.001	5DDF4100(1)C2(2)	F5DDF4100(1)C2(2)
1.00	63	5.2	11.1	13.4	10.0	0.0022	5DDF4100(1)F2(2)	F5DDF4100(1)F2(2)
1.00	63	5.2	11.1	13.4	10.0	0.0047	5DDF4100(1)B2(2)	F5DDF4100(1)B2(2)
1.00	63	5.2	11.1	13.4	10.0	0.0068	5DDF4100(1)N2(2)	F5DDF4100(1)N2(2)
1.00	63	5.2	11.1	13.4	10.0	0.01	5DDF4100(1)D2(2)	F5DDF4100(1)D2(2)
1.00	63	5.2	11.1	13.4	10.0	0.047	5DDF4100(1)R2(2)	F5DDF4100(1)R2(2)
1.00	63	5.2	11.1	13.4	10.0	0.068	5DDF4100(1)T2(2)	F5DDF4100(1)T2(2)
1.00	63	5.2	11.1	13.4	10.0	0.1	5DDF4100(1)S2(2)	F5DDF4100(1)S2(2)
1.20	63	6.2	12.1	13.4	10.0	0.00001	5DDF4120(1)U3(2)	F5DDF4120(1)U3(2)
1.20	63	6.2	12.1	13.4	10.0	0.000022	5DDF4120(1)V3(2)	F5DDF4120(1)V3(2)
1.20	63	6.2	12.1	13.4	10.0	0.000047	5DDF4120(1)W3(2)	F5DDF4120(1)W3(2)
1.20	63	6.2	12.1	13.4	10.0	0.000068	5DDF4120(1)X3(2)	F5DDF4120(1)X3(2)
1.20	63	6.2	12.1	13.4	10.0	0.0001	5DDF4120(1)E3(2)	F5DDF4120(1)E3(2)
1.20	63	6.2	12.1	13.4	10.0	0.00022	5DDF4120(1)G3(2)	F5DDF4120(1)G3(2)
1.20	63	6.2	12.1	13.4	10.0	0.00047	5DDF4120(1)A3(2)	F5DDF4120(1)A3(2)
1.20	63	6.2	12.1	13.4	10.0	0.00068	5DDF4120(1)H3(2)	F5DDF4120(1)H3(2)
1.20	63	6.2	12.1	13.4	10.0	0.001	5DDF4120(1)C3(2)	F5DDF4120(1)C3(2)
1.20	63	6.2	12.1	13.4	10.0	0.0022	5DDF4120(1)F3(2)	F5DDF4120(1)F3(2)
1.20	63	6.2	12.1	13.4	10.0	0.0047	5DDF4120(1)B3(2)	F5DDF4120(1)B3(2)
1.20	63	6.2	12.1	13.4	10.0	0.0068	5DDF4120(1)N3(2)	F5DDF4120(1)N3(2)
1.20	63	6.2	12.1	13.4	10.0	0.01	5DDF4120(1)D3(2)	F5DDF4120(1)D3(2)
1.20	63	6.2	12.1	13.4	10.0	0.047	5DDF4120(1)R3(2)	F5DDF4120(1)R3(2)
1.20	63	6.2	12.1	13.4	10.0	0.068	5DDF4120(1)T3(2)	F5DDF4120(1)T3(2)
1.20	63	6.2	12.1	13.4	10.0	0.1	5DDF4120(1)S3(2)	F5DDF4120(1)S3(2)
1.50	63	6.2	12.1	13.4	10.0	0.00001	5DDF4150(1)U3(2)	F5DDF4150(1)U3(2)
1.50	63	6.2	12.1	13.4	10.0	0.000022	5DDF4150(1)V3(2)	F5DDF4150(1)V3(2)
1.50	63	6.2	12.1	13.4	10.0	0.000047	5DDF4150(1)W3(2)	F5DDF4150(1)W3(2)
1.50	63	6.2	12.1	13.4	10.0	0.000068	5DDF4150(1)X3(2)	F5DDF4150(1)X3(2)
1.50	63	6.2	12.1	13.4	10.0	0.0001	5DDF4150(1)E3(2)	F5DDF4150(1)E3(2)
1.50	63	6.2	12.1	13.4	10.0	0.00022	5DDF4150(1)G3(2)	F5DDF4150(1)G3(2)
1.50	63	6.2	12.1	13.4	10.0	0.00047	5DDF4150(1)A3(2)	F5DDF4150(1)A3(2)
1.50	63	6.2	12.1	13.4	10.0	0.00068	5DDF4150(1)H3(2)	F5DDF4150(1)H3(2)
1.50	63	6.2	12.1	13.4	10.0	0.001	5DDF4150(1)C3(2)	F5DDF4150(1)C3(2)
1.50	63	6.2	12.1	13.4	10.0	0.0022	5DDF4150(1)F3(2)	F5DDF4150(1)F3(2)
1.50	63	6.2	12.1	13.4	10.0	0.0047	5DDF4150(1)B3(2)	F5DDF4150(1)B3(2)
1.50	63	6.2	12.1	13.4	10.0	0.0068	5DDF4150(1)N3(2)	F5DDF4150(1)N3(2)
1.50	63	6.2	12.1	13.4	10.0	0.01	5DDF4150(1)D3(2)	F5DDF4150(1)D3(2)
Capacitance Value (µF)	VDC	B (mm)	H (mm)	L (mm)	Lead Spacing (p)	Ceramic Cap (µF)	New KEMET Part Number	Legacy Part Number

(1) Insert lead and packaging code. See Ordering Options Table for available options.

(2) K = 10%, M = 20%.

Table 1 – Ratings & Part Number Reference cont'd

Capacitance Value (µF)	VDC	Max Dimensions in mm			Lead Spacing (p)	Ceramic Cap (µF)	New KEMET Part Number	Legacy Part Number
		B	H	L				
1.50	63	6.2	12.1	13.4	10.0	0.047	5DDF4150(1)R3(2)	F5DDF4150(1)R3(2)
1.50	63	6.2	12.1	13.4	10.0	0.068	5DDF4150(1)T3(2)	F5DDF4150(1)T3(2)
1.50	63	6.2	12.1	13.4	10.0	0.1	5DDF4150(1)S3(2)	F5DDF4150(1)S3(2)
0.10	100	5.2	11.1	13.4	10.0	0.00001	5DEF3100(1)U2(2)	F5DEF3100(1)U2(2)
0.10	100	5.2	11.1	13.4	10.0	0.000022	5DEF3100(1)V2(2)	F5DEF3100(1)V2(2)
0.10	100	5.2	11.1	13.4	10.0	0.000047	5DEF3100(1)W2(2)	F5DEF3100(1)W2(2)
0.10	100	5.2	11.1	13.4	10.0	0.000068	5DEF3100(1)X2(2)	F5DEF3100(1)X2(2)
0.10	100	5.2	11.1	13.4	10.0	0.0001	5DEF3100(1)E2(2)	F5DEF3100(1)E2(2)
0.10	100	5.2	11.1	13.4	10.0	0.00022	5DEF3100(1)G2(2)	F5DEF3100(1)G2(2)
0.10	100	5.2	11.1	13.4	10.0	0.00047	5DEF3100(1)A2(2)	F5DEF3100(1)A2(2)
0.10	100	5.2	11.1	13.4	10.0	0.00068	5DEF3100(1)H2(2)	F5DEF3100(1)H2(2)
0.10	100	5.2	11.1	13.4	10.0	0.001	5DEF3100(1)C2(2)	F5DEF3100(1)C2(2)
0.10	100	5.2	11.1	13.4	10.0	0.0022	5DEF3100(1)F2(2)	F5DEF3100(1)F2(2)
0.10	100	5.2	11.1	13.4	10.0	0.0047	5DEF3100(1)B2(2)	F5DEF3100(1)B2(2)
0.10	100	5.2	11.1	13.4	10.0	0.0068	5DEF3100(1)N2(2)	F5DEF3100(1)N2(2)
0.10	100	5.2	11.1	13.4	10.0	0.01	5DEF3100(1)D2(2)	F5DEF3100(1)D2(2)
0.10	100	5.2	11.1	13.4	10.0	0.047	5DEF3100(1)R2(2)	F5DEF3100(1)R2(2)
0.10	100	5.2	11.1	13.4	10.0	0.068	5DEF3100(1)T2(2)	F5DEF3100(1)T2(2)
0.10	100	5.2	11.1	13.4	10.0	0.1	5DEF3100(1)S2(2)	F5DEF3100(1)S2(2)
0.22	100	5.2	11.1	13.4	10.0	0.00001	5DEF3220(1)U2(2)	F5DEF3220(1)U2(2)
0.22	100	5.2	11.1	13.4	10.0	0.000022	5DEF3220(1)V2(2)	F5DEF3220(1)V2(2)
0.22	100	5.2	11.1	13.4	10.0	0.000047	5DEF3220(1)W2(2)	F5DEF3220(1)W2(2)
0.22	100	5.2	11.1	13.4	10.0	0.000068	5DEF3220(1)X2(2)	F5DEF3220(1)X2(2)
0.22	100	5.2	11.1	13.4	10.0	0.0001	5DEF3220(1)E2(2)	F5DEF3220(1)E2(2)
0.22	100	5.2	11.1	13.4	10.0	0.00022	5DEF3220(1)G2(2)	F5DEF3220(1)G2(2)
0.22	100	5.2	11.1	13.4	10.0	0.00047	5DEF3220(1)A2(2)	F5DEF3220(1)A2(2)
0.22	100	5.2	11.1	13.4	10.0	0.00068	5DEF3220(1)H2(2)	F5DEF3220(1)H2(2)
0.22	100	5.2	11.1	13.4	10.0	0.001	5DEF3220(1)C2(2)	F5DEF3220(1)C2(2)
0.22	100	5.2	11.1	13.4	10.0	0.0022	5DEF3220(1)F2(2)	F5DEF3220(1)F2(2)
0.22	100	5.2	11.1	13.4	10.0	0.0047	5DEF3220(1)B2(2)	F5DEF3220(1)B2(2)
0.22	100	5.2	11.1	13.4	10.0	0.0068	5DEF3220(1)N2(2)	F5DEF3220(1)N2(2)
0.22	100	5.2	11.1	13.4	10.0	0.01	5DEF3220(1)D2(2)	F5DEF3220(1)D2(2)
0.22	100	5.2	11.1	13.4	10.0	0.047	5DEF3220(1)R2(2)	F5DEF3220(1)R2(2)
0.22	100	5.2	11.1	13.4	10.0	0.068	5DEF3220(1)T2(2)	F5DEF3220(1)T2(2)
0.22	100	5.2	11.1	13.4	10.0	0.1	5DEF3220(1)S2(2)	F5DEF3220(1)S2(2)
0.33	100	5.2	11.1	13.4	10.0	0.00001	5DEF3330(1)U2(2)	F5DEF3330(1)U2(2)
0.33	100	5.2	11.1	13.4	10.0	0.000022	5DEF3330(1)V2(2)	F5DEF3330(1)V2(2)
0.33	100	5.2	11.1	13.4	10.0	0.000047	5DEF3330(1)W2(2)	F5DEF3330(1)W2(2)
0.33	100	5.2	11.1	13.4	10.0	0.000068	5DEF3330(1)X2(2)	F5DEF3330(1)X2(2)
0.33	100	5.2	11.1	13.4	10.0	0.0001	5DEF3330(1)E2(2)	F5DEF3330(1)E2(2)
0.33	100	5.2	11.1	13.4	10.0	0.00022	5DEF3330(1)G2(2)	F5DEF3330(1)G2(2)
0.33	100	5.2	11.1	13.4	10.0	0.00047	5DEF3330(1)A2(2)	F5DEF3330(1)A2(2)
0.33	100	5.2	11.1	13.4	10.0	0.00068	5DEF3330(1)H2(2)	F5DEF3330(1)H2(2)
0.33	100	5.2	11.1	13.4	10.0	0.001	5DEF3330(1)C2(2)	F5DEF3330(1)C2(2)
0.33	100	5.2	11.1	13.4	10.0	0.0022	5DEF3330(1)F2(2)	F5DEF3330(1)F2(2)
0.33	100	5.2	11.1	13.4	10.0	0.0047	5DEF3330(1)B2(2)	F5DEF3330(1)B2(2)
0.33	100	5.2	11.1	13.4	10.0	0.0068	5DEF3330(1)N2(2)	F5DEF3330(1)N2(2)
0.33	100	5.2	11.1	13.4	10.0	0.01	5DEF3330(1)D2(2)	F5DEF3330(1)D2(2)
0.33	100	5.2	11.1	13.4	10.0	0.047	5DEF3330(1)R2(2)	F5DEF3330(1)R2(2)
0.33	100	5.2	11.1	13.4	10.0	0.068	5DEF3330(1)T2(2)	F5DEF3330(1)T2(2)
0.33	100	5.2	11.1	13.4	10.0	0.1	5DEF3330(1)S2(2)	F5DEF3330(1)S2(2)
0.47	100	5.2	11.1	13.4	10.0	0.00001	5DEF3470(1)U2(2)	F5DEF3470(1)U2(2)
0.47	100	5.2	11.1	13.4	10.0	0.000022	5DEF3470(1)V2(2)	F5DEF3470(1)V2(2)
0.47	100	5.2	11.1	13.4	10.0	0.000047	5DEF3470(1)W2(2)	F5DEF3470(1)W2(2)
0.47	100	5.2	11.1	13.4	10.0	0.000068	5DEF3470(1)X2(2)	F5DEF3470(1)X2(2)
0.47	100	5.2	11.1	13.4	10.0	0.0001	5DEF3470(1)E2(2)	F5DEF3470(1)E2(2)
0.47	100	5.2	11.1	13.4	10.0	0.00022	5DEF3470(1)G2(2)	F5DEF3470(1)G2(2)
0.47	100	5.2	11.1	13.4	10.0	0.00047	5DEF3470(1)A2(2)	F5DEF3470(1)A2(2)
0.47	100	5.2	11.1	13.4	10.0	0.00068	5DEF3470(1)H2(2)	F5DEF3470(1)H2(2)
Capacitance Value (µF)	VDC	B (mm)	H (mm)	L (mm)	Lead Spacing (p)	Ceramic Cap (µF)	New KEMET Part Number	Legacy Part Number

(1) Insert lead and packaging code. See Ordering Options Table for available options.

(2) K = 10%, M = 20%.

Table 1 – Ratings & Part Number Reference cont'd

Capacitance Value (µF)	VDC	Max Dimensions in mm			Lead Spacing (p)	Ceramic Cap (µF)	New KEMET Part Number	Legacy Part Number
		B	H	L				
0.47	100	5.2	11.1	13.4	10.0	0.001	5DEF3470(1)C2(2)	F5DEF3470(1)C2(2)
0.47	100	5.2	11.1	13.4	10.0	0.0022	5DEF3470(1)F2(2)	F5DEF3470(1)F2(2)
0.47	100	5.2	11.1	13.4	10.0	0.0047	5DEF3470(1)B2(2)	F5DEF3470(1)B2(2)
0.47	100	5.2	11.1	13.4	10.0	0.0068	5DEF3470(1)N2(2)	F5DEF3470(1)N2(2)
0.47	100	5.2	11.1	13.4	10.0	0.01	5DEF3470(1)D2(2)	F5DEF3470(1)D2(2)
0.47	100	5.2	11.1	13.4	10.0	0.047	5DEF3470(1)R2(2)	F5DEF3470(1)R2(2)
0.47	100	5.2	11.1	13.4	10.0	0.068	5DEF3470(1)T2(2)	F5DEF3470(1)T2(2)
0.47	100	5.2	11.1	13.4	10.0	0.1	5DEF3470(1)S2(2)	F5DEF3470(1)S2(2)
0.56	100	5.2	11.1	13.4	10.0	0.00001	5DEF3560(1)U2(2)	F5DEF3560(1)U2(2)
0.56	100	5.2	11.1	13.4	10.0	0.000022	5DEF3560(1)V2(2)	F5DEF3560(1)V2(2)
0.56	100	5.2	11.1	13.4	10.0	0.000047	5DEF3560(1)W2(2)	F5DEF3560(1)W2(2)
0.56	100	5.2	11.1	13.4	10.0	0.000068	5DEF3560(1)X2(2)	F5DEF3560(1)X2(2)
0.56	100	5.2	11.1	13.4	10.0	0.0001	5DEF3560(1)E2(2)	F5DEF3560(1)E2(2)
0.56	100	5.2	11.1	13.4	10.0	0.00022	5DEF3560(1)G2(2)	F5DEF3560(1)G2(2)
0.56	100	5.2	11.1	13.4	10.0	0.00047	5DEF3560(1)A2(2)	F5DEF3560(1)A2(2)
0.56	100	5.2	11.1	13.4	10.0	0.00068	5DEF3560(1)H2(2)	F5DEF3560(1)H2(2)
0.56	100	5.2	11.1	13.4	10.0	0.001	5DEF3560(1)C2(2)	F5DEF3560(1)C2(2)
0.56	100	5.2	11.1	13.4	10.0	0.0022	5DEF3560(1)F2(2)	F5DEF3560(1)F2(2)
0.56	100	5.2	11.1	13.4	10.0	0.0047	5DEF3560(1)B2(2)	F5DEF3560(1)B2(2)
0.56	100	5.2	11.1	13.4	10.0	0.0068	5DEF3560(1)N2(2)	F5DEF3560(1)N2(2)
0.56	100	5.2	11.1	13.4	10.0	0.01	5DEF3560(1)D2(2)	F5DEF3560(1)D2(2)
0.56	100	5.2	11.1	13.4	10.0	0.047	5DEF3560(1)R2(2)	F5DEF3560(1)R2(2)
0.56	100	5.2	11.1	13.4	10.0	0.068	5DEF3560(1)T2(2)	F5DEF3560(1)T2(2)
0.56	100	5.2	11.1	13.4	10.0	0.1	5DEF3560(1)S2(2)	F5DEF3560(1)S2(2)
1.00	100	5.2	11.1	13.4	10.0	0.00001	5DEF4100(1)U2(2)	F5DEF4100(1)U2(2)
1.00	100	5.2	11.1	13.4	10.0	0.000022	5DEF4100(1)V2(2)	F5DEF4100(1)V2(2)
1.00	100	5.2	11.1	13.4	10.0	0.000047	5DEF4100(1)W2(2)	F5DEF4100(1)W2(2)
1.00	100	5.2	11.1	13.4	10.0	0.000068	5DEF4100(1)X2(2)	F5DEF4100(1)X2(2)
1.00	100	5.2	11.1	13.4	10.0	0.0001	5DEF4100(1)E2(2)	F5DEF4100(1)E2(2)
1.00	100	5.2	11.1	13.4	10.0	0.00022	5DEF4100(1)G2(2)	F5DEF4100(1)G2(2)
1.00	100	5.2	11.1	13.4	10.0	0.00047	5DEF4100(1)A2(2)	F5DEF4100(1)A2(2)
1.00	100	5.2	11.1	13.4	10.0	0.00068	5DEF4100(1)H2(2)	F5DEF4100(1)H2(2)
1.00	100	5.2	11.1	13.4	10.0	0.001	5DEF4100(1)C2(2)	F5DEF4100(1)C2(2)
1.00	100	5.2	11.1	13.4	10.0	0.0022	5DEF4100(1)F2(2)	F5DEF4100(1)F2(2)
1.00	100	5.2	11.1	13.4	10.0	0.0047	5DEF4100(1)B2(2)	F5DEF4100(1)B2(2)
1.00	100	5.2	11.1	13.4	10.0	0.0068	5DEF4100(1)N2(2)	F5DEF4100(1)N2(2)
1.00	100	5.2	11.1	13.4	10.0	0.01	5DEF4100(1)D2(2)	F5DEF4100(1)D2(2)
1.00	100	5.2	11.1	13.4	10.0	0.047	5DEF4100(1)R2(2)	F5DEF4100(1)R2(2)
1.00	100	5.2	11.1	13.4	10.0	0.068	5DEF4100(1)T2(2)	F5DEF4100(1)T2(2)
1.00	100	5.2	11.1	13.4	10.0	0.1	5DEF4100(1)S2(2)	F5DEF4100(1)S2(2)
1.20	100	6.2	12.1	13.4	10.0	0.00001	5DEF4120(1)U3(2)	F5DEF4120(1)U3(2)
1.20	100	6.2	12.1	13.4	10.0	0.000022	5DEF4120(1)V3(2)	F5DEF4120(1)V3(2)
1.20	100	6.2	12.1	13.4	10.0	0.000047	5DEF4120(1)W3(2)	F5DEF4120(1)W3(2)
1.20	100	6.2	12.1	13.4	10.0	0.000068	5DEF4120(1)X3(2)	F5DEF4120(1)X3(2)
1.20	100	6.2	12.1	13.4	10.0	0.0001	5DEF4120(1)E3(2)	F5DEF4120(1)E3(2)
1.20	100	6.2	12.1	13.4	10.0	0.00022	5DEF4120(1)G3(2)	F5DEF4120(1)G3(2)
1.20	100	6.2	12.1	13.4	10.0	0.00047	5DEF4120(1)A3(2)	F5DEF4120(1)A3(2)
1.20	100	6.2	12.1	13.4	10.0	0.00068	5DEF4120(1)H3(2)	F5DEF4120(1)H3(2)
1.20	100	6.2	12.1	13.4	10.0	0.001	5DEF4120(1)C3(2)	F5DEF4120(1)C3(2)
1.20	100	6.2	12.1	13.4	10.0	0.0022	5DEF4120(1)F3(2)	F5DEF4120(1)F3(2)
1.20	100	6.2	12.1	13.4	10.0	0.0047	5DEF4120(1)B3(2)	F5DEF4120(1)B3(2)
1.20	100	6.2	12.1	13.4	10.0	0.0068	5DEF4120(1)N3(2)	F5DEF4120(1)N3(2)
1.20	100	6.2	12.1	13.4	10.0	0.01	5DEF4120(1)D3(2)	F5DEF4120(1)D3(2)
1.20	100	6.2	12.1	13.4	10.0	0.047	5DEF4120(1)R3(2)	F5DEF4120(1)R3(2)
1.20	100	6.2	12.1	13.4	10.0	0.068	5DEF4120(1)T3(2)	F5DEF4120(1)T3(2)
1.20	100	6.2	12.1	13.4	10.0	0.1	5DEF4120(1)S3(2)	F5DEF4120(1)S3(2)
1.50	100	6.2	12.1	13.4	10.0	0.00001	5DEF4150(1)U3(2)	F5DEF4150(1)U3(2)
1.50	100	6.2	12.1	13.4	10.0	0.000022	5DEF4150(1)V3(2)	F5DEF4150(1)V3(2)
1.50	100	6.2	12.1	13.4	10.0	0.000047	5DEF4150(1)W3(2)	F5DEF4150(1)W3(2)
Capacitance Value (µF)	VDC	B (mm)	H (mm)	L (mm)	Lead Spacing (p)	Ceramic Cap (µF)	New KEMET Part Number	Legacy Part Number

(1) Insert lead and packaging code. See Ordering Options Table for available options.

(2) K = 10%, M = 20%.

Table 1 – Ratings & Part Number Reference cont'd

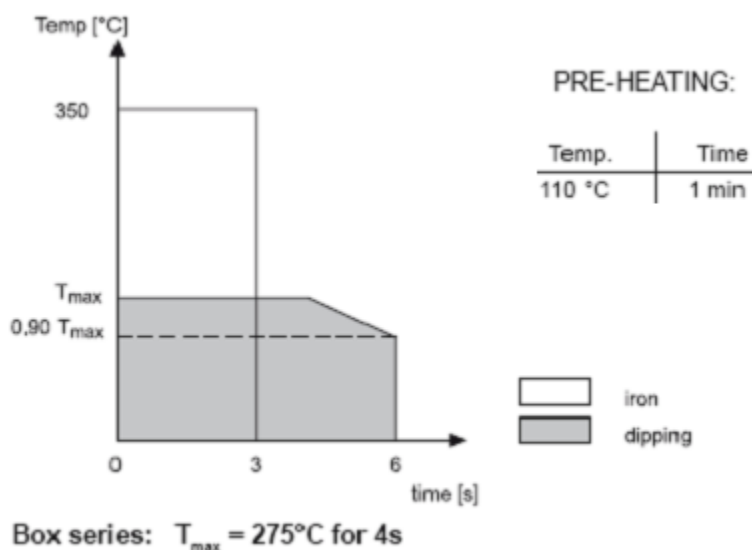
Capacitance Value (μF)	VDC	Max Dimensions in mm			Lead Spacing (p)	Ceramic Cap (μF)	New KEMET Part Number	Legacy Part Number
		B	H	L				
1.50	100	6.2	12.1	13.4	10.0	0.000068	5DEF4150(1)X3(2)	F5DEF4150(1)X3(2)
1.50	100	6.2	12.1	13.4	10.0	0.0001	5DEF4150(1)E3(2)	F5DEF4150(1)E3(2)
1.50	100	6.2	12.1	13.4	10.0	0.00022	5DEF4150(1)G3(2)	F5DEF4150(1)G3(2)
1.50	100	6.2	12.1	13.4	10.0	0.00047	5DEF4150(1)A3(2)	F5DEF4150(1)A3(2)
1.50	100	6.2	12.1	13.4	10.0	0.00068	5DEF4150(1)H3(2)	F5DEF4150(1)H3(2)
1.50	100	6.2	12.1	13.4	10.0	0.001	5DEF4150(1)C3(2)	F5DEF4150(1)C3(2)
1.50	100	6.2	12.1	13.4	10.0	0.0022	5DEF4150(1)F3(2)	F5DEF4150(1)F3(2)
1.50	100	6.2	12.1	13.4	10.0	0.0047	5DEF4150(1)B3(2)	F5DEF4150(1)B3(2)
1.50	100	6.2	12.1	13.4	10.0	0.0068	5DEF4150(1)N3(2)	F5DEF4150(1)N3(2)
1.50	100	6.2	12.1	13.4	10.0	0.01	5DEF4150(1)D3(2)	F5DEF4150(1)D3(2)
1.50	100	6.2	12.1	13.4	10.0	0.047	5DEF4150(1)R3(2)	F5DEF4150(1)R3(2)
1.50	100	6.2	12.1	13.4	10.0	0.068	5DEF4150(1)T3(2)	F5DEF4150(1)T3(2)
1.50	100	6.2	12.1	13.4	10.0	0.1	5DEF4150(1)S3(2)	F5DEF4150(1)S3(2)
Capacitance Value (μF)	VDC	B (mm)	H (mm)	L (mm)	Lead Spacing (p)	Ceramic Cap (μF)	New KEMET Part Number	Legacy Part Number

(1) Insert lead and packaging code. See Ordering Options Table for available options.

(2) K = 10%, M = 20%.

Maximum Soldering Temperature

- Set the temperature so that inside the element the maximum temperature is below 160°C
- Solder within the following temperature profiles, especially for iron soldering:



General Conditions

- If two solderings are needed, please apply a recovery time until the temperature on the capacitor surface is below 50°C.
- Avoid any passing through adhesive curing oven when fixing surface mount parts in combination with through-hole parts. Insert through-hole parts only after the curing of surface mount parts.
- Avoid reflow soldering by combining the lead type with surface mount parts

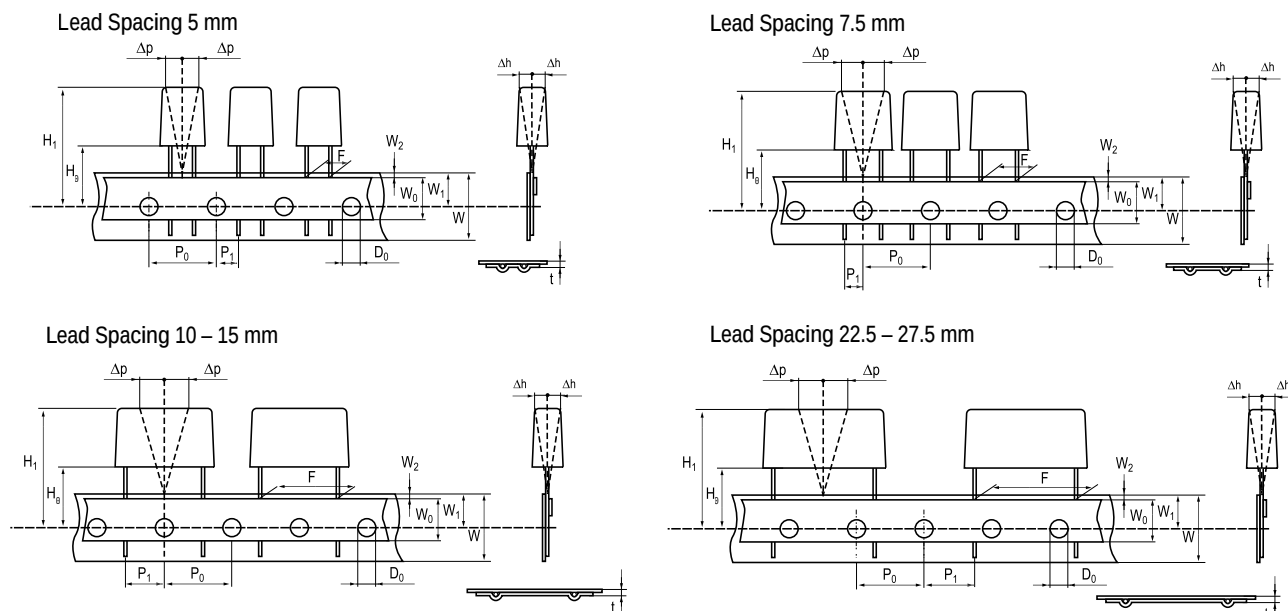
Marking

- Film capacitance
- Ceramic capacitance
- Tolerance
- DC rated voltage
- Series (F5D)
- Manufacturing date code

Packaging Quantities

Lead Spacing	Thickness (mm)	Height (mm)	Length (mm)	Bulk Short Leads	Bulk Long Leads	Standard Reel ø 355 mm	Large Reel ø 500 mm	Ammo
5	4.6	9.6	7.4	1500	2000	1400		1900
	5.1	10.1	7.5	1000	1500	1200		1700
	6.1	11.1	7.5	2000	1000	1000		1400
	7.3	13.1	7.5	1500	750	800		1150
10	5.2	11.1	13.4	1300	2000	600	1250	800
	6.2	12.1	13.4	1000	1800	500	1000	680

Lead Taping & Packaging (IEC 60286-2)



Taping Specification

Dimensions in mm									Standard IEC 60286-2
Lead spacing	+6/-0.1	F	5	7.5	10	15	22.5	27.5	F
Carrier tape width	+1/-0.5	W	18	18	18	18	18	18	18 ^{+1/-0.5}
Hold-down tape width	Minimum	W ₀	6	6	9	10	10	10	
Position of sprocket hole	+/-0.5	W ₁	9	9	9	9	9	9	9 ^{+0.75/-0.5}
Distance between tapes	Maximum	W ₂	3	3	3	3	3	3	3
Sprocket hole diameter	+/-0.2	D ₀	4	4	4	4	4	4	4
Feed hole lead spacing	+/-0.2 ⁽¹⁾	P ₀ ⁽³⁾	12.7	12.7	12.7	12.7	12.7	12.7	12.7
Distance lead – feed hole	+/-0.7	P ₁	3.85	3.75	7.7	5.2	7.8	5.3	P ¹
Deviation tape – plane	Maximum	Δp	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Lateral deviation	+/-2	Δh	2	2	2	2	2	2	2
Total thickness	+/-0.2	t	0.7	0.7	0.7	0.7	0.9 ^{MAX}	0.9 ^{MAX}	0.9 ^{MAX}
Sprocket hole/cap body	+/-0.5	H ₀ ⁽²⁾	18.5 ^{+/-0.5}	18.5 ^{+/-0.5}	18.5 ^{+/-0.5}	18.5 ^{+/-0.5}	18.5 ^{+/-0.5}	18.5 ^{+/-0.5}	18 ^{+2/-0}

(1) Maximum cumulative feed hole error, 1 mm per 20 parts.

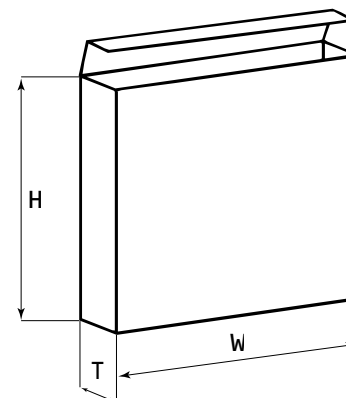
(2) 16.5 mm available on request.

(3) 15 mm available on request (F ≥ 10 mm).

Lead Taping & Packaging (IEC 60286–2) cont'd

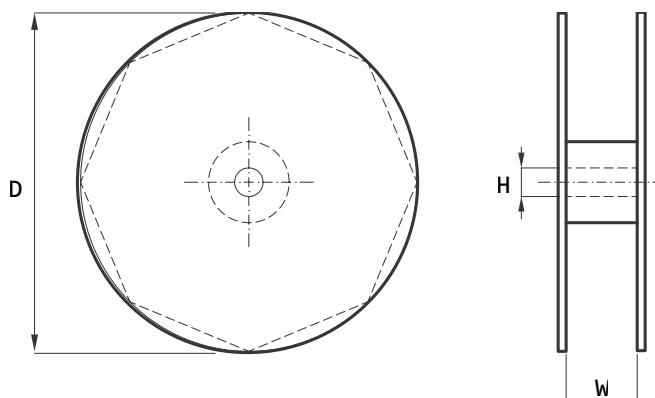
Ammo Specifications

Series	Dimensions (mm)		
	H	W	T
R4x, R4x+R, R7x, RSB	360	340	59
F5A, F5B, F5D			
F6xx, F8xx			
PHExxx, PMExxx, PMRxxx	330	330	50



Reel Specifications

Series	Dimensions (mm)		
	D	H	W
R4x, R4x+R, R7x, RSB	355 500	30	55 (Max)
F5A, F5B, F5D		25	
F6xx, F8xx			
PHExxx, PMExxx, PMRxxx	360 500	30	46 (Max)



Manufacturing Date Code (IEC–60062)

Y = Year, Z = Month			
Year	Code	Month	Code
2000	M	January	1
2001	N	February	2
2002	P	March	3
2003	R	April	4
2004	S	May	5
2005	T	June	6
2006	U	July	7
2007	V	August	8
2008	W	September	9
2009	X	October	O
2010	A	November	N
2011	B	December	D
2012	C		
2013	D		
2014	E		
2015	F		
2016	H		
2017	J		
2018	K		
2019	L		
2020	M		

KEMET Corporation World Headquarters

2835 KEMET Way
Simpsonville, SC 29681

Mailing Address:
P.O. Box 5928
Greenville, SC 29606

www.kemet.com
Tel: 864-963-6300
Fax: 864-963-6521

Corporate Offices
Fort Lauderdale, FL
Tel: 954-766-2800

North America

Southeast
Lake Mary, FL
Tel: 407-855-8886

Northeast
Wilmington, MA
Tel: 978-658-1663

Central
Novi, MI
Tel: 248-994-1030

West
Milpitas, CA
Tel: 408-433-9950

Mexico
Guadalajara, Jalisco
Tel: 52-33-3123-2141

Europe

Southern Europe
Paris, France
Tel: 33-1-4646-1006

Sasso Marconi, Italy
Tel: 39-051-939111

Central Europe
Landsberg, Germany
Tel: 49-8191-3350800

Kamen, Germany
Tel: 49-2307-438110

Northern Europe
Bishop's Stortford, United Kingdom
Tel: 44-1279-460122

Espoo, Finland
Tel: 358-9-5406-5000

Asia

Northeast Asia
Hong Kong
Tel: 852-2305-1168

Shenzhen, China
Tel: 86-755-2518-1306

Beijing, China
Tel: 86-10-5829-1711

Shanghai, China
Tel: 86-21-6447-0707

Taipei, Taiwan
Tel: 886-2-27528585

Southeast Asia
Singapore
Tel: 65-6586-1900

Penang, Malaysia
Tel: 60-4-6430200

Bangalore, India
Tel: 91-806-53-76817

Note: KEMET reserves the right to modify minor details of internal and external construction at any time in the interest of product improvement. KEMET does not assume any responsibility for infringement that might result from the use of KEMET Capacitors in potential circuit designs. KEMET is a registered trademark of KEMET Electronics Corporation.

Other KEMET Resources

Tools	
Resource	Location
Configure A Part: CapEdge	http://capacitoreedge.kemet.com
SPIICE & FIT Software	http://www.kemet.com/spice
Search Our FAQs: KnowledgeEdge	http://www.kemet.com/keask
Electrolytic LifeCalculator	http://www.kemet.com:8080/elc

Product Information	
Resource	Location
Products	http://www.kemet.com/products
Technical Resources (Including Soldering Techniques)	http://www.kemet.com/technicalpapers
RoHS Statement	http://www.kemet.com/rohs
Quality Documents	http://www.kemet.com/qualitydocuments

Product Request	
Resource	Location
Sample Request	http://www.kemet.com/sample
Engineering Kit Request	http://www.kemet.com/kits

Contact	
Resource	Location
Website	www.kemet.com
Contact Us	http://www.kemet.com/contact
Investor Relations	http://www.kemet.com/ir
Call Us	1-877-MyKEMET
Twitter	http://twitter.com/kemetcapacitors

Disclaimer

All product specifications, statements, information and data (collectively, the "Information") in this datasheet are subject to change. The customer is responsible for checking and verifying the extent to which the Information contained in this publication is applicable to an order at the time the order is placed.

All Information given herein is believed to be accurate and reliable, but it is presented without guarantee, warranty, or responsibility of any kind, expressed or implied.

Statements of suitability for certain applications are based on KEMET Electronics Corporation's ("KEMET") knowledge of typical operating conditions for such applications, but are not intended to constitute – and KEMET specifically disclaims – any warranty concerning suitability for a specific customer application or use. The Information is intended for use only by customers who have the requisite experience and capability to determine the correct products for their application. Any technical advice inferred from this Information or otherwise provided by KEMET with reference to the use of KEMET's products is given gratis, and KEMET assumes no obligation or liability for the advice given or results obtained.

Although KEMET designs and manufactures its products to the most stringent quality and safety standards, given the current state of the art, isolated component failures may still occur. Accordingly, customer applications which require a high degree of reliability or safety should employ suitable designs or other safeguards (such as installation of protective circuitry or redundancies) in order to ensure that the failure of an electrical component does not result in a risk of personal injury or property damage.

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

Warning: The component F5D is a combined passive suppression component. Overloading with high voltage or voltage transients can strongly damage the component with the risk of fire.

Remark: For technical reasons, the ceramic capacitor may not be covered fully by resin. This does not constitute grounds for complaint. The ceramic capacitors are specified for the same range of temperature and climate as the combined elements. They do not require protection by the resin.

