

Low Impedance Switching Power Grade Type 139R for Output Filters in Switching Power Supplies



These aluminum electrolytic capacitors are designed for switching power supply output filters and applications requiring extremely low ESR. They deliver low impedance over a wide frequency range, and a maximum inductance of 20 nH and tightly controlled ESR of $\pm 30\%$ tolerance.

Performance Highlights:

- Capacitance 2,800 μF to 67,000 μF $\pm 20\%$
- Voltage Range 6.3 Vdc to 55 Vdc
- Operating temperature -55°C to $+85^\circ\text{C}$
- 1000 hours load life test at $+85^\circ\text{C}$
- 500 hours full-ripple life test at $+85^\circ\text{C}$
- 100 hours shelf life test at $+85^\circ\text{C}$
- Leakage current
 - $\leq 1.5 \sqrt{\text{CV}}$ μA at 25°C
 - $\leq 9 \sqrt{\text{CV}}$ μA at 85°C

Ratings:

Capacitance μF	ESR $\pm 30\%$ ohms 20kHz	Ripple 20kHz, @85°C	Nominal Case Size D x L (inches)	Catalog Number
6.3 Vdc — 9 Vdc Surge				
18000	.0058	9.8	1% x 2 1/2	139R183M6R3AA2B
25000	.0050	11.4	1% x 2 1/2	139R253M6R3AH2B
32000	.0045	13.0	1% x 3 1/8	139R323M6R3AB2B
39000	.0041	14.4	1% x 3 1/8	139R393M6R3AJ2B
46000	.0038	15.8	1% x 4 1/8	139R463M6R3AC2B
53000	.0035	17.3	1% x 4 1/8	139R533M6R3AD2B
60000	.0032	19.0	1% x 5 1/8	139R603M6R3AE2B
67000	.0030	20.4	1% x 5 1/8	139R673M6R3AF2B
7.5 Vdc — 9 Vdc Surge				
15000	.0060	9.6	1% x 2 1/2	139R153M7R5AA2B
21000	.0052	11.2	1% x 2 1/2	139R213M7R5AH2B
27000	.0046	12.8	1% x 3 1/8	139R273M7R5AB2B
33000	.0042	14.2	1% x 3 1/8	139R333M7R5AJ2B
39000	.0039	15.6	1% x 4 1/8	139R393M7R5AC2B
45000	.0036	17.1	1% x 4 1/8	139R453M7R5AD2B
51000	.0033	18.7	1% x 5 1/8	139R513M7R5AE2B
57000	.0030	20.4	1% x 5 1/8	139R573M7R5AF2B
16 Vdc — 18 Vdc Surge				
10000	.0064	9.3	1% x 2 1/2	139R103M016AA2B
14000	.0055	10.9	1% x 2 1/2	139R143M016AH2B
18000	.0049	12.4	1% x 3 1/8	139R183M016AB2B
22000	.0044	13.9	1% x 3 1/8	139R223M016AJ2B
26000	.0040	15.4	1% x 4 1/8	139R263M016AC2B
30000	.0037	16.9	1% x 4 1/8	139R303M016AD2B
34000	.0034	18.4	1% x 5 1/8	139R343M016AE2B
38000	.0031	20.1	1% x 5 1/8	139R383M016AF2B
20 Vdc — 22 Vdc Surge				
8800	.0066	9.1	1% x 2 1/2	139R882M020AA2B
12000	.0057	10.7	1% x 2 1/2	139R123M020AH2B
16000	.0050	12.3	1% x 3 1/8	139R163M020AB2B
20000	.0045	13.8	1% x 3 1/8	139R203M020AJ2B
22000	.0041	15.3	1% x 4 1/8	139R223M020AC2B
27000	.0038	16.6	1% x 4 1/8	139R273M020AD2B
30000	.0035	18.1	1% x 5 1/8	139R303M020AE2B
34000	.0032	19.8	1% x 5 1/8	139R343M020AF2B

Capacitance μF	ESR $\pm 30\%$ ohms 20kHz	Ripple amps 20kHz, @85°C	Nominal Case Size D x L (inches)	Catalog Number
28 Vdc — 32 Vdc Surge				
6300	.0071	8.8	1% x 2 1/2	139R632M028AA2B
8800	.0061	10.4	1% x 2 1/2	139R882M028AH2B
11000	.0053	11.9	1% x 3 1/8	139R113M028AB2B
14000	.0048	13.3	1% x 3 1/8	139R143M028AJ2B
16000	.0043	14.9	1% x 4 1/8	139R163M028AC2B
19000	.0039	16.4	1% x 4 1/8	139R193M028AD2B
22000	.0036	17.9	1% x 5 1/8	139R223M028AE2B
24000	.0033	19.5	1% x 5 1/8	139R243M028AF2B
35 Vdc — 40 Vdc Surge				
4500	.0075	8.6	1% x 2 1/2	139R452M035AA2B
6300	.0064	10.1	1% x 2 1/2	139R632M035AH2B
8100	.0055	11.7	1% x 3 1/8	139R812M035AB2B
10000	.0050	13.1	1% x 3 1/8	139R103M035AJ2B
12000	.0045	14.6	1% x 4 1/8	139R123M035AC2B
14000	.0041	16.0	1% x 4 1/8	139R143M035AD2B
16000	.0037	17.7	1% x 5 1/8	139R163M035AE2B
17000	.0034	19.2	1% x 5 1/8	139R173M035AF2B
55 Vdc — 64 Vdc Surge				
2800	.0087	8.0	1% x 2 1/2	139R282M055AA2B
3900	.0073	9.5	1% x 2 1/2	139R392M055AH2B
5000	.0063	11.0	1% x 3 1/8	139R502M055AB2B
6200	.0056	12.3	1% x 3 1/8	139R622M055AJ2B
7300	.0050	13.8	1% x 4 1/8	139R732M055AC2B
8400	.0045	15.3	1% x 4 1/8	139R842M055AD2B
9500	.0040	17.0	1% x 5 1/8	139R952M055AE2B
10000	.0036	18.7	1% x 5 1/8	139R103M055AF2B