Type VPR –55 to 105 °C Radial Leaded Aluminum Electrolytic

Low ESR, Optional 3rd Lead Case Styles, Aluminum Electrolytic Capacitors

Type VPR is a radial leaded aluminum electrolytic capacitor with a 105 ºC, 2000 hours long life ratings. The VPR has 3 optional case styles with a third lead. The low ESR rating makes it ideal for output filtering in switching power supplies.

Highlights

- 105 ºC
- Long life
- Low ESR
- High reliability

Specifications

Capacitance Range: 34 to 12,000 µF

Voltage Range: 6.3 to 100 Vdc (250 Vdc on special request)

Capacitance Tolerance: –10% +75% (others on special request)

Operating Temperature Range: –55 ºC to +105 ºC

DC Leakage Current: I = .002 CV after 2 minutes @ 25 ºC
C = Capacitance in (µF)
V = Rated voltage
I = Leakage current in µA

RoHS Compliant

Ripple Multipliers for Temperature:

Temperature (ºC)	45	55	65	75	85	95
Multiplier	**1.66**	**1.52**	1.37	1.2	1	0.75

Complies with the EU Directive 2002/95/EC requirement restricting the use of Lead (Pb), Mercury (Hg), Cadmium (Cd), Hexavalent chromium (Cr(VI)), PolyBrominated Biphenyls (PBB) and PolyBrominated Diphenyl Ethers (PBDE).

QA Stability Test: Apply WVDC for 2000 h at 105 ºC
Capacitance change within 15% of initial limits
DC leakage current meets initial limits
ESR ≤ 150% of initial measured value

Part Numbering System

VPR	372	U	016	L2C	3	A
Type	Capacitance (µF)	Capacitance Tolerance (%)	Rated Voltage (Vdc)	Case Code	Insulating Sleeve	Lead Configuration
VPR	100 = 10 101 = 100 372 = 3700	U = –10 +75 T = –10 +50	6R3 = 6.3 016 = 16 100 = 100	See Case Code Chart	0 = No sleeve 3 = PVC 4 = Plastic sleeve 5 = Plastic sleeve with end seal	A = Standard B, J or T – see outline dimensions

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Case Codes

Case Code Chart

Uninsulated Case Size

Case Code	Inches			Millimeters			Lead Wire Size	
	D	L	S	D	L	S	Inches	AWG
E1A	0.512	1.024	0.20	13.0	26.0	5.08	0.023	#20
E1E	0.512	1.300	0.20	13.0	33.0	5.08	0.023	#20
E1L	0.512	1.654	0.20	13.0	42.0	5.08	0.023	#20
L1C	0.875	1.125	0.30	22.2	28.6	7.62	0.04	#18
L1L	0.875	1.625	0.30	22.2	41.3	7.62	0.04	#18
L2C	0.875	2.125	0.30	22.2	53.9	7.62	0.04	#18
L2L	0.875	2.625	0.30	22.2	66.7	7.62	0.04	#18
L3C	0.875	3.125	0.30	22.2	79.4	7.62	0.04	#18
L3L	0.875	3.625	0.30	22.2	92.1	7.62	0.04	#18
N1C	1.000	1.125	0.40	25.4	28.6	10.16	0.04	#18
N1L	1.000	1.625	0.40	25.4	41.3	10.16	0.04	#18
N2C	1.000	2.125	0.40	25.4	53.9	10.16	0.04	#18
N2L	1.000	2.625	0.40	25.4	66.7	10.16	0.04	#18
N3C	1.000	3.125	0.40	25.4	79.4	10.16	0.04	#18
N3L	1.000	3.625	0.40	25.4	92.1	10.16	0.04	#18

Outline Drawings

Figure A
.512 Diameter

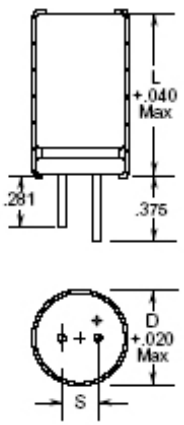


Figure A
.750 Diameter & Greater

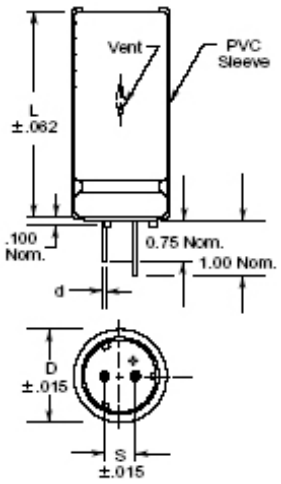


Figure J
(Optional)

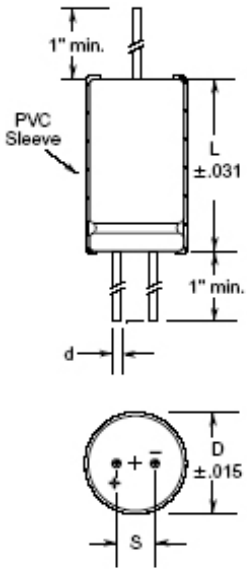


Figure T
(Optional)

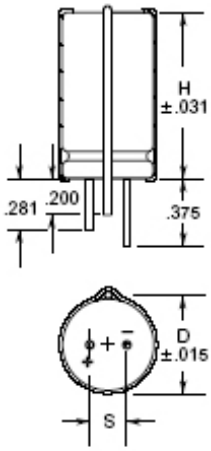
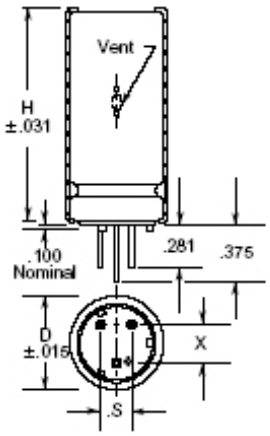


Figure B
(Optional)



PVC sleeve adds .015 to diameter and length.

(Inches)

Type VPR –55 to 105 °C Radial Leaded Aluminum Electrolytic

Ratings

Cap (µF)	Catalog Part Number	Max ESR 10 kHz 25 °C (Ω)	Max Ripple 10 kHz 85 °C (A)	Size in. (mm) Diameter (D)	Length (L)	Lead Space (S)	Lead Dia. (d)
6.3 Vdc (8 Volts Surge)							
880	VPR881U6R3E1A	0.121	1.430	0.512 (13.0)	1.024 (26.0)	0.20 (5.1)	0.023 (.58)
5,600	VPR562U6R3N1L	0.034	3.767	1.000 (25.4)	1.625 (41.3)	0.40 (10.2)	0.040 (1.0)
8,800	VPR882U6R3N2C	0.023	5.131	1.000 (25.4)	2.125 ((54.0)	0.40 (10.2)	0.040 (1.0)
12,000	VPR123U6R3N2L	0.018	6.364	1.000 (25.4)	2.625 (66.7)	0.40 (10.2)	0.040 (1.0)
7.5 Vdc (10 Volts Surge)							
780	VPR781U7R5E1A	0.117	1.450	0.512 (13.0)	1.024 (26.0)	0.20 (5.1)	0.023 (.58)
1,700	VPR172U7R5E1A	0.057	2.590	0.512 (13.0)	1.024 (26.0)	0.20 (5.1)	0.023 (.58)
4,900	VPR492U7R5N1L	0.031	3.820	1.000 (25.4)	1.625 (41.3)	0.40 (10.2)	0.040 (1.0)
10 Vdc (13 Volts Surge)							
660	VPR661U010E1A	0.115	1.470	0.512 (13.0)	1.024 (26.0)	0.20 (5.1)	0.023 (.58)
990	VPR991U010E1E	0.076	1.970	0.512 (13.0)	1.300 (33.0)	0.20 (5.1)	0.023 (.58)
4,200	VPR422U010N1L	0.032	3.702	1.000 (25.4)	1.625 (41.3)	0.40 (10.2)	0.040 (1.0)
12 Vdc (18 Volts Surge)							
1,200	VPR122U012E1L	0.055	2.640	0.512 (13.0)	1.654 (42.0)	0.20 (5.1)	0.023 (.58)
5,600	VPR562U012N2C	0.021	4.932	1.000 (25.4)	2.125 ((54.0)	0.40 (10.2)	0.040 (1.0)
16 Vdc (20 Volts Surge)							
500	VPR501U016E1A	0.110	1.500	0.512 (13.0)	1.024 (26.0)	0.20 (5.1)	0.023 (.58)
2,300	VPR232U016L1L	0.040	2.863	0.875 (22.2)	1.625 (41.3)	0.30 (7.6)	0.040 (1.0)
3,200	VPR322U016N1L	0.029	3.637	1.000 (25.4)	1.625 (41.3)	0.40 (10.2)	0.040 (1.0)
3,700	VPR372U016L2C	0.026	3.981	0.875 (22.2)	2.125 ((54.0)	0.30 (7.6)	0.040 (1.0)
5,000	VPR502U016N2C	0.020	4.887	1.000 (25.4)	2.125 ((54.0)	0.40 (10.2)	0.040 (1.0)
6,900	VPR692U016N2L	0.017	6.105	1.000 (25.4)	2.625 (66.7)	0.40 (10.2)	0.040 (1.0)
10,000	VPR103U016N3L	0.012	8.033	1.000 (25.4)	3.625 (92.1)	0.40 (10.2)	0.040 (1.0)
25 Vdc (30 Volts Surge)							
640	VPR641U025E1L	0.067	2.390	0.512 (13.0)	1.654 (42.0)	0.20 (5.1)	0.023 (.58)
1,300	VPR132U025L1L	0.035	2.729	0.875 (22.2)	1.625 (41.3)	0.30 (7.6)	0.040 (1.0)
1,800	VPR182U025N1L	0.035	3.006	1.000 (25.4)	1.625 (41.3)	0.40 (10.2)	0.040 (1.0)
2,800	VPR282U025L2L	0.018	4.732	0.875 (22.2)	2.625 (66.7)	0.30 (7.6)	0.040 (1.0)
2,800	VPR282U025N2C	0.023	4.107	1.000 (25.4)	2.125 ((54.0)	0.40 (10.2)	0.040 (1.0)
3,900	VPR392U025N2L	0.018	5.191	1.000 (25.4)	2.625 (66.7)	0.40 (10.2)	0.040 (1.0)
5,900	VPR592U025N3L	0.014	6.616	1.000 (25.4)	3.625 (92.1)	0.40 (10.2)	0.040 (1.0)

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Ratings

RoHS Compliant

Cap (µF)	Catalog Part Number	Max ESR 10 kHz 25 °C (Ω)	Max Ripple 10 kHz 85 °C (A)	Size in. (mm) Diameter (D)	Length (L)	Lead Space (S)	Lead Dia. (d)
40 Vdc (50 Volts Surge)							
160	VPR161U040E1A	0.171	1.200	0.512 (13.0)	1.024 (26.0)	0.20 (5.1)	0.023 (.58)
240	VPR241U040E1E	0.114	1.610	0.512 (13.0)	1.300 (33.0)	0.20 (5.1)	0.023 (.58)
360	VPR361U040E1L	0.091	2.050	0.512 (13.0)	1.654 (42.0)	0.20 (5.1)	0.023 (.58)
760	VPR761U040L1L	0.040	2.194	0.875 (22.2)	1.625 (41.3)	0.30 (7.6)	0.040 (1.0)
1,600	VPR162U040N2C	0.021	3.755	1.000 (25.4)	2.125 ((54.0)	0.40 (10.2)	0.040 (1.0)
2,200	VPR222U040N2L	0.017	4.732	1.000 (25.4)	2.625 (66.7)	0.40 (10.2)	0.040 (1.0)
2,800	VPR282U040N3C	0.014	5.651	1.000 (25.4)	3.125 (79.4)	0.40 (10.2)	0.040 (1.0)
3,300	VPR332U040N3L	0.014	6.437	1.000 (25.4)	3.625 (92.1)	0.40 (10.2)	0.040 (1.0)
50 Vdc (65 Volts Surge)							
110	VPR111U050E1A	0.317	0.880	0.512 (13.0)	1.024 (26.0)	0.20 (5.1)	0.023 (.58)
160	VPR161U050E1E	0.218	1.160	0.512 (13.0)	1.300 (33.0)	0.20 (5.1)	0.023 (.58)
250	VPR251U050E1L	0.139	1.660	0.512 (13.0)	1.654 (42.0)	0.20 (5.1)	0.023 (.58)
600	VPR601U050L1L	0.049	1.964	0.875 (22.2)	1.625 (41.3)	0.30 (7.6)	0.040 (1.0)
1200	VPR122U050N2C	0.028	3.297	1.000 (25.4)	2.125 ((54.0)	0.40 (10.2)	0.040 (1.0)
2,400	VPR242U050N3L	0.015	5.639	1.000 (25.4)	3.625 (92.1)	0.40 (10.2)	0.040 (1.0)
75 Vdc (95 Volts Surge)							
62	VPR620U075E1A	0.489	0.710	0.512 (13.0)	1.024 (26.0)	0.20 (5.1)	0.023 (.58)
140	VPR141U075E1L	0.216	1.330	0.512 (13.0)	1.654 (42.0)	0.20 (5.1)	0.023 (.58)
450	VPR451U075N1L	0.102	1.779	1.000 (25.4)	1.625 (41.3)	0.40 (10.2)	0.040 (1.0)
680	VPR681U075N2C	0.069	2.420	1.000 (25.4)	2.125 ((54.0)	0.40 (10.2)	0.040 (1.0)
1,100	VPR112U075N3C	0.044	3.577	1.000 (25.4)	3.125 (79.4)	0.40 (10.2)	0.040 (1.0)
100 Vdc (125 Volts Surge)							
34	VPR340U100E1A	0.691	0.530	0.512 (13.0)	1.024 (26.0)	0.20 (5.1)	0.023 (.58)
78	VPR780U100E1L	0.301	1.010	0.512 (13.0)	1.654 (42.0)	0.20 (5.1)	0.023 (.58)
250	VPR251U100N1L	0.111	1.818	1.000 (25.4)	1.625 (41.3)	0.40 (10.2)	0.040 (1.0)