

# 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 °C, 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 °C
- Long life
- Low ESR
- High reliability

### Specifications

|                            |                                                                                                                                                                                                                           |      |      |     |    |      |  |                  |    |    |    |    |    |    |            |      |      |      |     |   |      |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|------|-----|----|------|--|------------------|----|----|----|----|----|----|------------|------|------|------|-----|---|------|
| Temperature Range          | -55 °C to +105 °C                                                                                                                                                                                                         |      |      |     |    |      |  |                  |    |    |    |    |    |    |            |      |      |      |     |   |      |
| Rated Voltage Range        | 6.3 to 100 Vdc (250 Vdc on special request)                                                                                                                                                                               |      |      |     |    |      |  |                  |    |    |    |    |    |    |            |      |      |      |     |   |      |
| Capacitance Range          | 250 to 12,000 µF                                                                                                                                                                                                          |      |      |     |    |      |  |                  |    |    |    |    |    |    |            |      |      |      |     |   |      |
| Capacitance Tolerance      | -10% +75% (others on special request)                                                                                                                                                                                     |      |      |     |    |      |  |                  |    |    |    |    |    |    |            |      |      |      |     |   |      |
| Leakage Current            | I = .002 CV after 2 minutes @ 25 °C<br>C = Capacitance in (µF)<br>V = Rated voltage<br>I = Leakage current in µA                                                                                                          |      |      |     |    |      |  |                  |    |    |    |    |    |    |            |      |      |      |     |   |      |
| Ripple Current Multipliers | <table><tr><td>Temperature (°C)</td><td>45</td><td>55</td><td>65</td><td>75</td><td>85</td><td>95</td></tr><tr><td>Multiplier</td><td>1.66</td><td>1.52</td><td>1.37</td><td>1.2</td><td>1</td><td>0.75</td></tr></table> |      |      |     |    |      |  | Temperature (°C) | 45 | 55 | 65 | 75 | 85 | 95 | Multiplier | 1.66 | 1.52 | 1.37 | 1.2 | 1 | 0.75 |
| Temperature (°C)           | 45                                                                                                                                                                                                                        | 55   | 65   | 75  | 85 | 95   |  |                  |    |    |    |    |    |    |            |      |      |      |     |   |      |
| Multiplier                 | 1.66                                                                                                                                                                                                                      | 1.52 | 1.37 | 1.2 | 1  | 0.75 |  |                  |    |    |    |    |    |    |            |      |      |      |     |   |      |
| QA Stability Test          | Apply WVDC for 2000 h at 105 °C<br>Capacitance change within 15% of initial limits<br>DC leakage current meets initial limits<br>ESR ≤ 150% of initial measured value                                                     |      |      |     |    |      |  |                  |    |    |    |    |    |    |            |      |      |      |     |   |      |
| RoHS Compliant             |                                                                                                                                                                                                                           |      |      |     |    |      |  |                  |    |    |    |    |    |    |            |      |      |      |     |   |      |

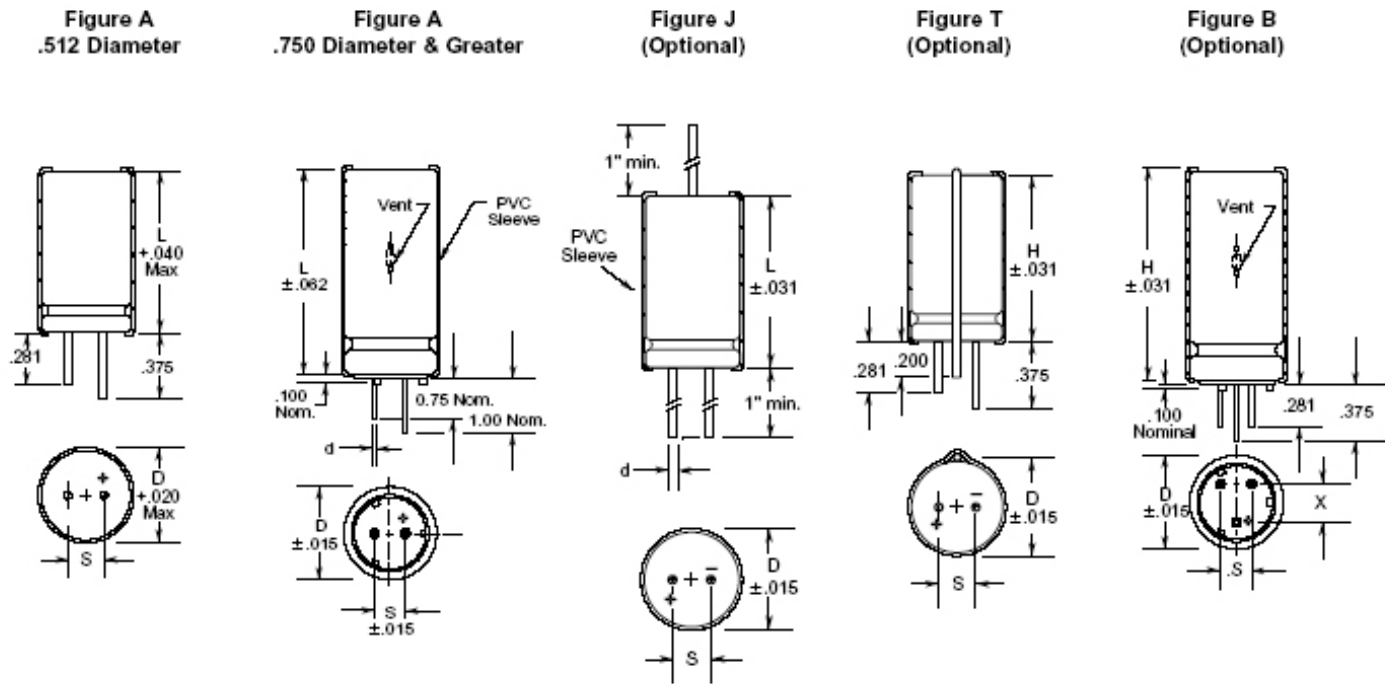
### Part Numbering System

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

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### Outline Drawing



PVC sleeve adds .015 to diameter and length.

(Inches)

### Case Code

Case Code Chart  
Uninsulated Case Size

| Case Code | Inches |       |      | Millimeters |      |       | Lead Wire Size |     |
|-----------|--------|-------|------|-------------|------|-------|----------------|-----|
|           | D      | L     | S    | D           | L    | S     | Inches         | AWG |
| 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 |

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## Ratings

| Cap<br>(μF)              | Catalog<br>Part Number | Max ESR      | Max Ripple   | Size in. (mm)   |               |                   |                  |
|--------------------------|------------------------|--------------|--------------|-----------------|---------------|-------------------|------------------|
|                          |                        | 10 kHz       | 10 kHz       | Diameter<br>(D) | Length<br>(L) | Lead Space<br>(S) | Lead Dia.<br>(d) |
|                          |                        | 25 °C<br>(Ω) | 85 °C<br>(A) |                 |               |                   |                  |
| 6.3 Vdc (8 Volts Surge)  |                        |              |              |                 |               |                   |                  |
| 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) |                        |              |              |                 |               |                   |                  |
| 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)  |                        |              |              |                 |               |                   |                  |
| 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)  |                        |              |              |                 |               |                   |                  |
| 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)  |                        |              |              |                 |               |                   |                  |
| 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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| Cap<br>(μF)               | Catalog<br>Part Number | Max ESR<br>10 kHz<br>25 °C<br>(Ω) | Max Ripple<br>10 kHz<br>85 °C<br>(A) | Size in. (mm)   |               |                   |                  |
|---------------------------|------------------------|-----------------------------------|--------------------------------------|-----------------|---------------|-------------------|------------------|
|                           |                        |                                   |                                      | Diameter<br>(D) | Length<br>(L) | Lead Space<br>(S) | Lead Dia.<br>(d) |
| 40 Vdc (50 Volts Surge)   |                        |                                   |                                      |                 |               |                   |                  |
| 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)   |                        |                                   |                                      |                 |               |                   |                  |
| 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)   |                        |                                   |                                      |                 |               |                   |                  |
| 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) |                        |                                   |                                      |                 |               |                   |                  |
| 250                       | VPR251U100N1L          | 0.111                             | 1.818                                | 1.000 (25.4)    | 1.625 (41.3)  | 0.40 (10.2)       | 0.040 (1.0)      |



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#### Как с нами связаться

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