

# Type VPR Radial Leaded Capacitors

**MALLORY**



- 105°C - Long Life
- Low ESR
- High Reliability
- Ideal For Use as an Output Filter for SMPS

## GENERAL SPECIFICATIONS

Operating Temperature:  
-55°C to +105°C

Voltage Range:  
6.3 WVDC to 100 WVDC  
Up to 250 WVDC available

Capacitance Range:  
34  $\mu$ F to 12,000  $\mu$ F

Capacitance Tolerance:  
-10% +75%  
Other tolerances available

DC Leakage Current:

$I = .002CV$   
C = Capacitance in  $\mu$ F  
V = Rated Voltage  
I = Leakage Current in  $\mu$ A

QA Stability Test:

Apply WVDC for 2,000 hrs at 105°C

- Capacitance change within 15% of initial limits
- DC leakage current meets initial limits
- ESR  $\leq$  150% of initial measured value

The maximum ripple current at 85°C and 10 kHz for VPR capacitors is shown in the Standard Rating Table. Maximum ripple current may be adjusted by the multipliers in the following tables.

| Ambient Temperature | Ripple Multipliers |
|---------------------|--------------------|
| 95°C                | .75                |
| 85°C                | 1.0                |
| 75°C                | 1.2                |
| 65°C                | 1.37               |
| 55°C                | 1.52               |
| 45°C                | 1.66               |

| Cap<br>μF              | Max ESR<br>Ohms<br>10kHz<br>25°C | Max Ripple<br>Amps<br>10kHz<br>85°C | Size (Inches) |             |                    |      | Catalog<br>Number |
|------------------------|----------------------------------|-------------------------------------|---------------|-------------|--------------------|------|-------------------|
|                        |                                  |                                     | D<br>Diameter | L<br>Length | S<br>Lead<br>Space | d    |                   |
| 6.3 WVDC; 8 VDC Surge  |                                  |                                     |               |             |                    |      |                   |
| 880                    | .121                             | 1.430                               | .512          | 1.024       | .200               | .023 | VPR881U6R3E1A     |
| 5,600                  | .034                             | 3.767                               | 1.000         | 1.625       | .400               | .040 | VPR562U6R3N1L     |
| 8,800                  | .023                             | 5.131                               | 1.000         | 2.125       | .400               | .040 | VPR882U6R3N2C     |
| 12,000                 | .018                             | 6.364                               | 1.000         | 2.625       | .400               | .040 | VPR123U6R3N2L     |
| 7.5 WVDC; 10 VDC Surge |                                  |                                     |               |             |                    |      |                   |
| 780                    | .117                             | 1.450                               | .512          | 1.024       | .200               | .023 | VPR781U7R5E1A     |
| 1,700                  | .057                             | 2.590                               | .512          | 1.024       | .200               | .023 | VPR172U7R5E1A     |
| 2,600                  | .037                             | 2.862                               | .750          | 1.625       | .250               | .040 | VPR262U7R5J1L     |
| 4,900                  | .031                             | 3.820                               | 1.000         | 1.625       | .400               | .040 | VPR492U7R5N1L     |
| 10 WVDC; 13 VDC Surge  |                                  |                                     |               |             |                    |      |                   |
| 660                    | .115                             | 1.470                               | .512          | 1.024       | .200               | .023 | VPR661U010E1A     |
| 990                    | .076                             | 1.970                               | .512          | 1.300       | .200               | .023 | VPR991U010E1E     |
| 4,200                  | .032                             | 3.702                               | 1.000         | 1.625       | .400               | .040 | VPR422U010N1L     |
| 12 WVDC; 18 VDC Surge  |                                  |                                     |               |             |                    |      |                   |
| 1,200                  | .055                             | 2.640                               | .512          | 1.654       | .200               | .023 | VPR122U012E1L     |
| 1,800                  | .044                             | 2.519                               | .750          | 1.625       | .250               | .040 | VPR182U012J1L     |
| 5,600                  | .021                             | 4.932                               | 1.000         | 2.125       | .400               | .040 | VPR562U012N2C     |
| 16 WVDC; 20 VDC Surge  |                                  |                                     |               |             |                    |      |                   |
| 500                    | .110                             | 1.500                               | .512          | 1.024       | .200               | .023 | VPR501U016E1A     |
| 1,600                  | .044                             | 2.465                               | .750          | 1.625       | .250               | .040 | VPR162U016J1L     |
| 2,300                  | .040                             | 2.863                               | .875          | 1.625       | .300               | .040 | VPR232U016L1L     |
| 3,200                  | .029                             | 3.637                               | 1.000         | 1.625       | .400               | .040 | VPR322U016N1L     |
| 3,700                  | .026                             | 3.981                               | .875          | 2.125       | .300               | .040 | VPR372U016L2C     |
| 5,000                  | .020                             | 4.887                               | 1.000         | 2.125       | .400               | .040 | VPR502U016N2C     |
| 6,900                  | .017                             | 6.105                               | 1.000         | 2.625       | .400               | .040 | VPR692U016N2L     |
| 10,000                 | .012                             | 8.033                               | 1.000         | 3.625       | .400               | .040 | VPR103U016N3L     |
| 25 WVDC; 30 VDC Surge  |                                  |                                     |               |             |                    |      |                   |
| 640                    | .067                             | 2.390                               | .512          | 1.654       | .200               | .023 | VPR641U025E1L     |
| 940                    | .037                             | 2.404                               | .750          | 1.625       | .250               | .040 | VPR941U025J1L     |
| 1,300                  | .035                             | 2.729                               | .875          | 1.625       | .300               | .040 | VPR132U025L1L     |
| 1,400                  | .026                             | 3.230                               | .750          | 2.125       | .250               | .040 | VPR142U025J2C     |
| 1,800                  | .035                             | 3.006                               | 1.000         | 1.625       | .400               | .040 | VPR182U025N1L     |
| 2,800                  | .018                             | 4.732                               | .875          | 2.625       | .300               | .040 | VPR282U025L2L     |
| 2,800                  | .023                             | 4.107                               | 1.000         | 2.125       | .400               | .040 | VPR282U025N2C     |

| Cap<br>μF               | Max ESR<br>Ohms<br>10kHz<br>25°C | Max Ripple<br>Amps<br>10kHz<br>85°C | Size (Inches) |             |                    |      | Catalog<br>Number |
|-------------------------|----------------------------------|-------------------------------------|---------------|-------------|--------------------|------|-------------------|
|                         |                                  |                                     | D<br>Diameter | L<br>Length | S<br>Lead<br>Space | d    |                   |
| 25 WVDC; 30 VDC Surge   |                                  |                                     |               |             |                    |      |                   |
| 3,900                   | .018                             | 5.191                               | 1.000         | 2.625       | .400               | .040 | VPR392U025N2L     |
| 5,900                   | .014                             | 6.616                               | 1.000         | 3.625       | .400               | .040 | VPR592U025N3L     |
| 40 WVDC; 50 VDC Surge   |                                  |                                     |               |             |                    |      |                   |
| 160                     | .171                             | 1.200                               | .512          | 1.024       | .200               | .023 | VPR161U040E1A     |
| 240                     | .114                             | 1.610                               | .512          | 1.300       | .200               | .023 | VPR241U040E1E     |
| 360                     | .091                             | 2.050                               | .512          | 1.654       | .200               | .023 | VPR361U040E1L     |
| 540                     | .044                             | 1.925                               | .750          | 1.625       | .250               | .040 | VPR541U040J1L     |
| 760                     | .040                             | 2.194                               | .875          | 1.625       | .300               | .040 | VPR761U040L1L     |
| 850                     | .029                             | 2.683                               | .750          | 2.125       | .250               | .040 | VPR851U040J2C     |
| 1,100                   | .018                             | 3.695                               | .750          | 2.625       | .250               | .040 | VPR112U040J2L     |
| 1,600                   | .021                             | 3.755                               | 1.000         | 2.125       | .400               | .040 | VPR162U040N2C     |
| 2,200                   | .017                             | 4.732                               | 1.000         | 2.625       | .400               | .040 | VPR222U040N2L     |
| 2,800                   | .014                             | 5.651                               | 1.000         | 3.125       | .400               | .040 | VPR282U040N3C     |
| 3,300                   | .014                             | 6.437                               | 1.000         | 3.625       | .400               | .040 | VPR332U040N3L     |
| 50 WVDC; 65 VDC Surge   |                                  |                                     |               |             |                    |      |                   |
| 110                     | .317                             | .880                                | .512          | 1.024       | .200               | .023 | VPR111U050E1A     |
| 160                     | .218                             | 1.160                               | .512          | 1.300       | .200               | .023 | VPR161U050E1E     |
| 250                     | .139                             | 1.660                               | .512          | 1.654       | .200               | .023 | VPR251U050E1L     |
| 600                     | .049                             | 1.964                               | .875          | 1.625       | .300               | .040 | VPR601U050L1L     |
| 1,200                   | .028                             | 3.297                               | 1.000         | 2.125       | .400               | .040 | VPR122U050N2C     |
| 2,400                   | .015                             | 5.639                               | 1.000         | 3.625       | .400               | .040 | VPR242U050N3L     |
| 75 WVDC; 95 VDC Surge   |                                  |                                     |               |             |                    |      |                   |
| 62                      | .489                             | .710                                | .512          | 1.024       | .200               | .023 | VPR620U075E1A     |
| 140                     | .216                             | 1.330                               | .512          | 1.654       | .200               | .023 | VPR141U075E1L     |
| 350                     | .063                             | 2.047                               | .750          | 2.125       | .250               | .040 | VPR351U075J2C     |
| 450                     | .102                             | 1.779                               | 1.000         | 1.625       | .400               | .040 | VPR451U075N1L     |
| 680                     | .069                             | 2.420                               | 1.000         | 2.125       | .400               | .040 | VPR681U075N2C     |
| 1,100                   | .044                             | 3.577                               | 1.000         | 3.125       | .400               | .040 | VPR112U075N3C     |
| 100 WVDC; 125 VDC Surge |                                  |                                     |               |             |                    |      |                   |
| 34                      | .691                             | .530                                | .512          | 1.024       | .200               | .023 | VPR340U100E1A     |
| 78                      | .301                             | 1.010                               | .512          | 1.654       | .200               | .023 | VPR780U100E1L     |
| 130                     | .164                             | 1.124                               | .750          | 1.625       | .250               | .040 | VPR131U100J1L     |
| 190                     | .143                             | 1.441                               | .750          | 2.125       | .250               | .040 | VPR191U100J2C     |
| 250                     | .111                             | 1.818                               | 1.000         | 1.625       | .400               | .040 | VPR251U100N1L     |

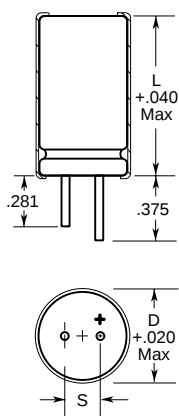
Aluminum Capacitors

**MALLORY**

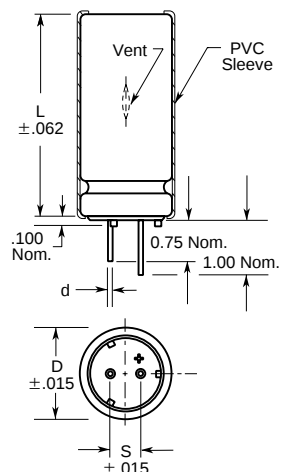
## Part Number Nomenclature

| NACC                                                                                                           | Catalog Number: | VPR | 372 | U | 016 | L2C | 3 | A |
|----------------------------------------------------------------------------------------------------------------|-----------------|-----|-----|---|-----|-----|---|---|
| TYPE NUMBER:                                                                                                   |                 |     |     |   |     |     |   |   |
| Identifies the basic type                                                                                      |                 |     |     |   |     |     |   |   |
| CAPACITANCE:                                                                                                   |                 |     |     |   |     |     |   |   |
| Expressed in microfarads. The first two digits are significant figures. The third digit is the number of zeros |                 |     |     |   |     |     |   |   |
| CAPACITANCE TOLERANCE:                                                                                         |                 |     |     |   |     |     |   |   |
| U = -10%+75%, T = -10%+50%                                                                                     |                 |     |     |   |     |     |   |   |
| Other tolerances available on special request                                                                  |                 |     |     |   |     |     |   |   |
| DC VOLTAGE RATING:                                                                                             |                 |     |     |   |     |     |   |   |
| Zeros are used to precede the voltage rating where necessary to complete the three digit block                 |                 |     |     |   |     |     |   |   |
| The letter 'R' indicates a decimal point                                                                       |                 |     |     |   |     |     |   |   |
| CASE CODE:                                                                                                     |                 |     |     |   |     |     |   |   |
| Denotes uninsulated diameter and length                                                                        |                 |     |     |   |     |     |   |   |
| INSULATING SLEEVE:                                                                                             |                 |     |     |   |     |     |   |   |
| 0 = No sleeve, 4 = Plastic sleeve                                                                              |                 |     |     |   |     |     |   |   |
| 5 = Plastic sleeve with end seal                                                                               |                 |     |     |   |     |     |   |   |
| LEAD CONFIGURATION:                                                                                            |                 |     |     |   |     |     |   |   |
| A (Standard), B, J, or T                                                                                       |                 |     |     |   |     |     |   |   |
| (See corresponding figures)                                                                                    |                 |     |     |   |     |     |   |   |

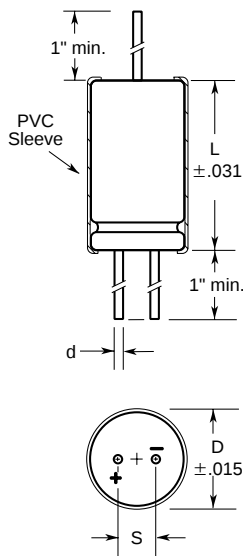
**Figure A**  
**.512 Diameter**



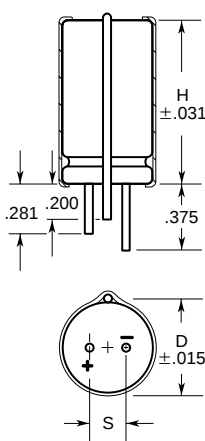
**Figure A**  
**.750 Diameter & Greater**



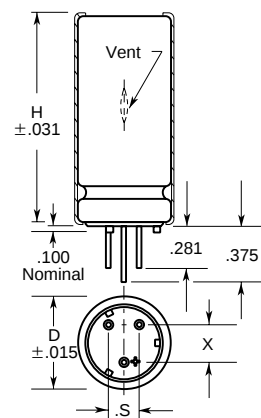
**Figure J  
(Optional)**



**Figure T  
(Optional)**



**Figure B  
(Optional)**



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