

# PPR

Small size Radial leaded metallized polypropylene film capacitors for Pulse applications



## Features

- Self Healing
- High dvdt
- Stable with frequency and temperature
- High Voltage

## Applications

- Power semiconductor circuits
- SRC Commutation
- Switching power supplies
- Ballasts

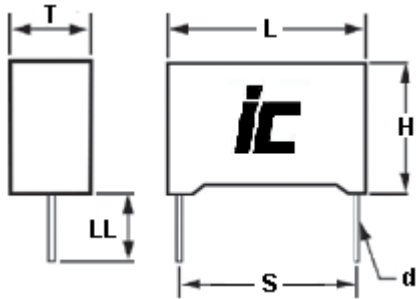
## Specifications

|  |  |   |                              |                 |             |
|--|--|---|------------------------------|-----------------|-------------|
| <b>Operating Temperature Range</b>   | <b>-55°C to +105°C</b>   |   |                              |                 |             |
| <b>Capacitance Tolerance</b>   | ±10% at 1 kHz, 25°C<br>+5% optional  |   |                              |                 |             |
| <b>AC voltage (50/60 Hz)</b>   | <b>WVDC</b>  | <b>630</b>  | <b>1000</b>                  | <b>1600</b>     | <b>2000</b> |
|  | <b>VAC</b>   | 400   | 630                          | 650             | 700         |
|  | DC: For T>+85°C, The voltage must be decreased by 1.5% per °C<br>AC: For T> +75°C, The voltage must be decreased by 1.75% per °C |   |                              |                 |             |
| <b>Dissipation Factor (MAX)<br/>25°C</b>   | <b>Frequency (kHz)</b>   | <b>C≤0.1uF</b>  | <b>0.1uF&lt;C≤1uF</b>        | <b>C&gt;1uF</b> |             |
|  | 1  | 0.04%   | 0.04%                        | 0.05%           |             |
|  | 10   | 0.05%   | 0.06%                        | -               |             |
|  | 100  | 0.16%   | -                            | -               |             |
| <b>Insulation Resistance<br/>@25°C (&lt;70% RH)for 1 minute at<br/>100VDC applied</b>                  | <b>Capacitance</b>   |   | <b>Insulation Resistance</b> |                 |             |
|  | <0.33µF  |   | 100000 MΩ                    |                 |             |
|  | >0.33µF  |   | 30000 MΩxµF                  |                 |             |
| <b>Self Inductance</b>   | <1 nano-Henry per mm of lead spacing   |   |                              |                 |             |
| <b>Capacitance Drift Factor</b>  | <0.5% after 2 years at 40°C  |   |                              |                 |             |
| <b>Load Life</b>   | <b>2000 Hours, +85C with 125% of rated voltage</b>   |   |                              |                 |             |
|  | <b>Capacitance Change</b>  | ≤1% of initially measured value   |                              |                 |             |
|  | <b>Dissipation Factor</b>  | ≤0.001 at 10kHz and 25°C for C≤1uF<br>≤0.001 at 1kHz and 25°C for C>1uF |                              |                 |             |
|  | <b>Insulation Resistance</b>   | ≥50% of maximum specified value   |                              |                 |             |
| <b>Reliability<br/>(0.5xRated Voltage,<br/>40°C)<br/>1 FIT=1 failure/1 billion<br/>component hours</b> | 1 Fit  |   |                              |                 |             |
|  | <b>Capacitance Change</b>  | ≤10% of initially measured value  |                              |                 |             |
|  | <b>Dissipation Factor</b>  | ≤200% of initially specified value                                      |                              |                 |             |
|  | <b>Insulation Resistance</b>   | ≥50% of maximum specified value   |                              |                 |             |
| <b>Damp Heat test</b>  | <b>56 days at40°C with 90 to 95%RH, +40°C and no voltage applied</b>   |   |                              |                 |             |
|  | <b>Capacitance Change</b>  | ≤5% of initially measured value   |                              |                 |             |
|  | <b>Dissipation Factor</b>  | ≤0.005 at 1kHz and 25°C   |                              |                 |             |
|  | <b>Insulation Resistance</b>   | ≥50% of maximum specified value   |                              |                 |             |
| <b>Self Inductance</b>   | <1 nano-Henry per mm of lead spacing   |   |                              |                 |             |
| <b>Capacitance Drift Factor</b>  | <0.5% after 2 years at 40°C  |   |                              |                 |             |
| <b>Capacitance Temperature Coefficient</b>   | -200 ppm/°C, ±100ppm/°C  |   |                              |                 |             |
| <b>Dielectric Strength</b>   | <b>Terminal to Terminal</b>  |   |                              |                 |             |
|  | 160% of rated VDC applied for 2 Seconds and 25°C   |   |                              |                 |             |
| <b>Dielectric</b>  | Polypropylene  |   |                              |                 |             |
| <b>Construction</b>  | Metallized film  |   |                              |                 |             |
| <b>Coating</b>   | Flame Retardant plastic box (UL 94V-1) with epoxy resin fill (UL94V0)  |   |                              |                 |             |
| <b>Leads</b>   | Lead free tinned copper leads  |   |                              |                 |             |



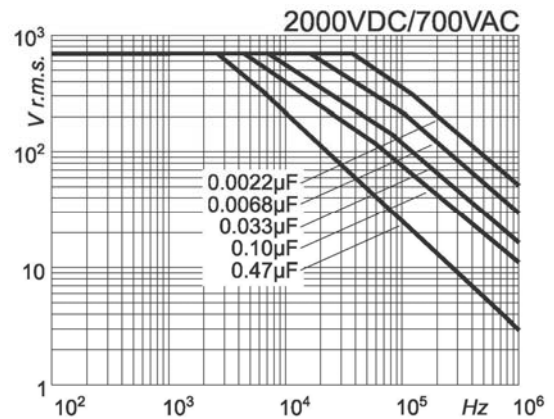
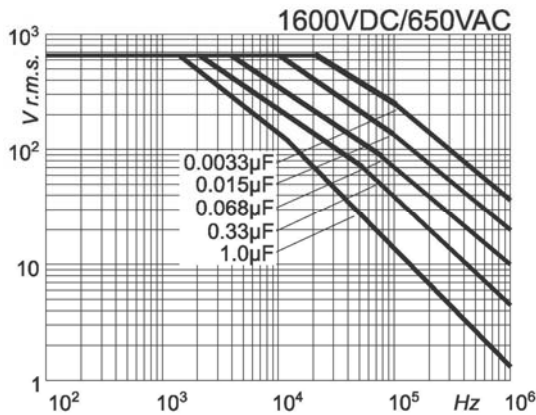
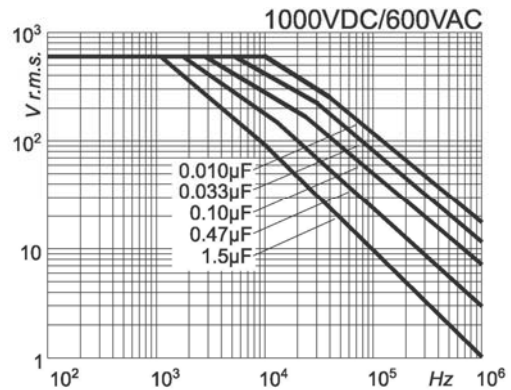
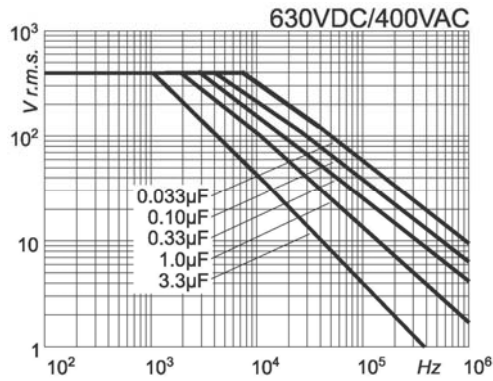
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|    |         |         |        |        |
|----|---------|---------|--------|--------|
| L  | 18      | 26.5    | 32     | 42.5   |
| S  | 15      | 22.5    | 27.5   | 37.5   |
| d  | 0.8     | 0.8     | 0.8    | 1.2    |
| LL | 5.0±1.0 | 5.0±1.0 | 30±5.0 | 30±5.0 |

Permissible (sinusoidal) AC voltage versus frequency for a temperature rise of 10°C  
Not for across the line applications



# PPR

## High Voltage Pulse Radial Lead Snubber

| Capacitance (μF) | WVDC | IC PART NUMBER | dv/dt (v/μ sec.) | Dims LxHxT (mm) | S (MM) | d (MM) |
|------------------|------|----------------|------------------|-----------------|--------|--------|
| 0.0022           | 2000 | 222PPR202KE    | 7000             | 18x11x5         | 15     | 0.8    |
| 0.0033           | 1600 | 332PPR162KE    | 6000             | 18x11x5         | 15     | 0.8    |
| 0.0033           | 2000 | 332PPR202KE    | 7000             | 18x12x6         | 15     | 0.8    |
| 0.0047           | 1600 | 472PPR162KE    | 6000             | 18x11x5         | 15     | 0.8    |
| 0.0047           | 2000 | 472PPR202KE    | 7000             | 18x13.5x7.5     | 15     | 0.8    |
| 0.0068           | 1500 | 682PPR102KE    | 6000             | 18x11x5         | 15     | 0.8    |
| 0.0068           | 2000 | 682PPR202KE    | 7000             | 18x13.5x7.5     | 15     | 0.8    |
| 0.01             | 1000 | 103PPR102KE    | 3300             | 18x11x5         | 15     | 0.8    |
| 0.01             | 1600 | 103PPR162KE    | 6000             | 18x12x6         | 15     | 0.8    |
| 0.01             | 2000 | 103PPR202KE    | 7000             | 18x16x10        | 15     | 0.8    |
| 0.01             | 2000 | 103PPR202KG    | 3500             | 26.5x15x6       | 22.5   | 0.8    |
| 0.015            | 1000 | 153PPR102KE    | 3300             | 18x12x6         | 15     | 0.8    |
| 0.015            | 1600 | 153PPR162KE    | 6000             | 18x13.5x7.5     | 15     | 0.8    |
| 0.015            | 2000 | 153PPR202KG    | 3500             | 26.5x16x7       | 22.5   | 0.8    |
| 0.022            | 630  | 223PPR630KE    | 2500             | 18x11x5         | 15     | 0.8    |
| 0.022            | 1000 | 223PPR102KE    | 3300             | 18x13.5x7.5     | 15     | 0.8    |
| 0.022            | 1600 | 223PPR162KE    | 6000             | 18x14.5x8.5     | 15     | 0.8    |
| 0.022            | 1600 | 223PPR162KG    | 3000             | 26.5x15x6       | 22.5   | 0.8    |
| 0.022            | 2000 | 223PPR202KG    | 3500             | 26.5x17x8.5     | 22.5   | 0.8    |
| 0.022            | 2000 | 223PPR202KH    | 2300             | 32x17x9         | 27.5   | 0.8    |
| 0.033            | 630  | 333PPR630KE    | 2500             | 18x12x6         | 15     | 0.8    |
| 0.033            | 1000 | 333PPR102KE    | 3300             | 18x14.5x8.5     | 15     | 0.8    |
| 0.033            | 1000 | 333PPR102KG    | 2100             | 26.5x15x6       | 22.5   | 0.8    |
| 0.033            | 1600 | 333PPR162KG    | 3000             | 26.5x16x7       | 22.5   | 0.8    |
| 0.033            | 2000 | 333PPR202KG    | 3500             | 26.5x18.5x10    | 22.5   | 0.8    |
| 0.033            | 2000 | 333PPR202KH    | 2300             | 32x17x9         | 27.5   | 0.8    |
| 0.047            | 630  | 473PPR630KE    | 2500             | 18x13.5x7.5     | 15     | 0.8    |
| 0.047            | 1000 | 473PPR102KG    | 2100             | 26.5x16x7       | 22.5   | 0.8    |
| 0.047            | 1600 | 473PPR162KG    | 3000             | 26.5x18.5x10    | 22.5   | 0.8    |
| 0.047            | 1600 | 473PPR162KH    | 2000             | 32x17x9         | 27.5   | 0.8    |
| 0.047            | 2000 | 473PPR202KG    | 3500             | 26.5x22x13      | 22.5   | 0.8    |
| 0.047            | 2000 | 473PPR202KH    | 2300             | 32x20x11        | 27.5   | 0.8    |
| 0.068            | 630  | 683PPR630KE    | 2500             | 18x14.5x8.5     | 15     | 0.8    |
| 0.068            | 630  | 683PPR630KG    | 1500             | 26.5x15x6       | 22.5   | 0.8    |
| 0.068            | 1000 | 683PPR102KG    | 2100             | 26.5x17x8.5     | 22.5   | 0.8    |
| 0.068            | 1600 | 683PPR162KG    | 3000             | 26.5x20x11      | 22.5   | 0.8    |
| 0.068            | 1600 | 683PPR162KH    | 2000             | 32x17x9         | 27.5   | 0.8    |
| 0.068            | 2000 | 683PPR202KH    | 2300             | 32x22x13        | 27.5   | 0.8    |
| 0.1              | 630  | 104PPR630KE    | 2500             | 18x16x10        | 15     | 0.8    |
| 0.1              | 630  | 104PPR630KG    | 1500             | 26.5x15x6       | 22.5   | 0.8    |
| 0.1              | 1000 | 104PPR102KH    | 1000             | 32x17x9         | 27.5   | 0.8    |
| 0.1              | 1000 | 104PPR102KG    | 2100             | 26.5x18.5x10    | 22.5   | 0.8    |
| 0.1              | 1600 | 104PPR162KG    | 3000             | 26.5x22x13      | 22.5   | 0.8    |

| Capacitance (μF) | WVDC | IC PART NUMBER | dv/dt (v/μ sec.) | Dims LxHxT (mm) | S (MM) | d (MM) |
|------------------|------|----------------|------------------|-----------------|--------|--------|
| 0.1              | 1600 | 104PPR162KH    | 2000             | 32x20x11        | 27.5   | 0.8    |
| 0.1              | 2000 | 104PPR202KH    | 2300             | 32x28x14        | 27.5   | 0.8    |
| 0.15             | 630  | 154PPR630KG    | 1500             | 26.5x17x8.5     | 22.5   | 0.8    |
| 0.15             | 630  | 154PPR630KH    | 900              | 32x17x9         | 27.5   | 0.8    |
| 0.15             | 1000 | 154PPR102KG    | 2100             | 26.5x22x13      | 22.5   | 0.8    |
| 0.15             | 1000 | 154PPR102KH    | 1000             | 32x20x11        | 27.5   | 0.8    |
| 0.15             | 1600 | 154PPR162KH    | 2000             | 32x24.5x15      | 27.5   | 0.8    |
| 0.15             | 2000 | 154PPR202KH    | 2300             | 32x33x18        | 27.5   | 0.8    |
| 0.15             | 2000 | 154PPR202KJ    | 1500             | 42.5x28x17      | 37.5   | 1      |
| 0.22             | 630  | 224PPR630KG    | 1500             | 26.5x18.5x10    | 22.5   | 0.8    |
| 0.22             | 630  | 224PPR630KH    | 900              | 32x17x9         | 27.5   | 0.8    |
| 0.22             | 1000 | 224PPR102KH    | 1000             | 32x22x13        | 27.5   | 0.8    |
| 0.22             | 1600 | 224PPR162KH    | 2000             | 32x33x18        | 27.5   | 0.8    |
| 0.22             | 2000 | 224PPR202KH    | 2300             | 32x37x22        | 27.5   | 0.8    |
| 0.22             | 2000 | 224PPR202KJ    | 1500             | 42.5x30x22      | 37.5   | 1      |
| 0.33             | 630  | 334PPR630KG    | 1500             | 26x22x13        | 22.5   | 0.8    |
| 0.33             | 630  | 334PPR630KH    | 900              | 32x20x11        | 27.5   | 0.8    |
| 0.33             | 1000 | 334PPR102KH    | 1000             | 32x28x14        | 27.5   | 0.8    |
| 0.33             | 1600 | 334PPR162KH    | 2000             | 32x33x18        | 27.5   | 0.8    |
| 0.33             | 1600 | 334PPR162KJ    | 1200             | 42.5x28x17      | 37.5   | 1      |
| 0.33             | 2000 | 334PPR202KJ    | 1500             | 42.5x37x28      | 37.5   | 1      |
| 0.47             | 630  | 474PPR630KH    | 900              | 32x22x13        | 27.5   | 0.8    |
| 0.47             | 1000 | 474PPR102KH    | 1000             | 32x33x18        | 27.5   | 0.8    |
| 0.47             | 1600 | 474PPR162KJ    | 1200             | 42.5x30x22      | 37.5   | 1      |
| 0.47             | 1600 | 474PPR162KH    | 2000             | 32x37x22        | 27.5   | 0.8    |
| 0.47             | 2000 | 474PPR202KJ    | 1500             | 42.5x37x28      | 37.5   | 1      |
| 0.56             | 2000 | 564PPR202KJ    | 1500             | 42.5x45x30      | 37.5   | 1      |
| 0.68             | 630  | 684PPR630KH    | 900              | 32x24.5x15      | 27.5   | 0.8    |
| 0.68             | 1000 | 684PPR102KH    | 1000             | 32x37x22        | 27.5   | 0.8    |
| 0.68             | 1000 | 684PPR102KJ    | 500              | 42.5x30x22      | 37.5   | 1      |
| 0.68             | 1600 | 684PPR162KJ    | 1200             | 42.5x37x28      | 37.5   | 1      |
| 1                | 630  | 105PPR630KH    | 900              | 32x33x18        | 27.5   | 0.8    |
| 1                | 630  | 105PPR630KJ    | 450              | 42.5x28x17      | 37.5   | 1      |
| 1                | 1000 | 105PPR102KJ    | 500              | 42.5x37x28      | 37.5   | 1      |
| 1                | 1600 | 105PPR162KJ    | 1200             | 42.5x45x30      | 37.5   | 1      |
| 1.5              | 630  | 155PPR630KJ    | 450              | 42.5x30x22      | 37.5   | 1      |
| 1.5              | 630  | 155PPR630KH    | 900              | 32x37x22        | 27.5   | 0.8    |
| 1.5              | 1000 | 155PPR102KJ    | 500              | 42.5x37x28      | 37.5   | 1      |
| 1.8              | 1000 | 185PPR102KJ    | 500              | 42.5x45x30      | 37.5   | 1      |
| 2.2              | 630  | 225PPR630KJ    | 450              | 42.5x37x28      | 37.5   | 1      |
| 3.3              | 630  | 335PPR630KJ    | 450              | 42.5x45x30      | 37.5   | 1      |
| 3.9              | 630  | 395PPR630KJ    | 450              | 42.5x45x30      | 37.5   | 1      |