

PWS

Axial leaded polypropylene film with aluminum foil electrodes capacitors for power semiconductors



Features

- Self Healing
- High current
- Low ESR
- High pulse current ratings

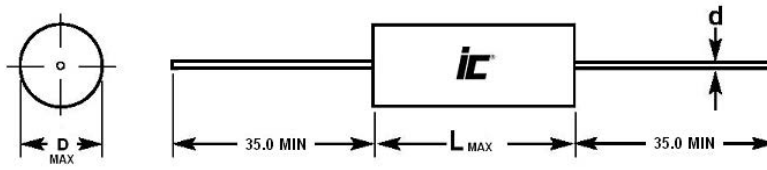
Applications

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

Specifications

| | | | | | |
|--|--|--|------------------------------|------------------------|-------------|
| Operating Temperature Range | -55°C to +105°C | | | | |
| Capacitance Tolerance | ±10% at 1 kHz, 25°C +5% optional | | | | |
| AC voltage (50/60 Hz) | WVDC | 630 | 1000 | 1500 | 2000 |
| | VAC | 300 | 400 | 450 | 500 |
| For T>+85°C , The voltage (DC/AC) must be decreased by 1.5% per °C | | | | | |
| Dissipation Factor (MAX) 25°C | Frequency (kHz) | C≤0.001uF | | .001<C≤0.1uF | |
| | 10 | - | | 0.05% | |
| | 100 | .01% | | - | |
| Insulation Resistance @25°C (<70% RH)for 1 minute at 100VDC applied | Capacitance | | Insulation Resistance | | |
| | ≤0.1μF | | 100000 MΩ | | |
| | >0.1μF | | 30000 MΩxμF | | |
| Self Inductance | <1 nano-Henry per mm of lead spacing | | | | |
| Capacitance Drift Factor | <0.5% after 2 years at 40°C | | | | |
| Load Life | 1000 Hours, +85C with 150% of rated voltage | | | | |
| | Capacitance Change | ≤1% of initially measured value | | | |
| | Dissipation Factor | ≤0.0005 at 10kHz and 25°C for C≤0.1uF ≤0.001 at 1kHz and 25°C for C>0.1uF | | | |
| | Insulation Resistance | ≥50% of maximum specified value | | | |
| Reliability (0.5xRated Voltage, 40°C) 1 FIT=1 failure/1 billion component hours | 1 Fit | | | | |
| | Capacitance Change | ≤10% of initially measured value | | | |
| | Dissipation Factor | ≤200% of initially specified value | | | |
| | Insulation Resistance | ≥50% of maximum specified value | | | |
| Damp Heat test | 56 days at40°C with 90 to 95%RH, +40°C and no voltage applied | | | | |
| | Capacitance Change | ≤5% of initially measured value | | | |
| | Dissipation Factor | ≤0.005 at 1kHz and 25°C | | | |
| | Insulation Resistance | ≥50% of maximum specified value | | | |
| Self Inductance | <1 nano-Henry per mm of body length lead length | | | | |
| Capacitance Drift Factor | <0.5% after 2 years at 40°C | | | | |
| Capacitance Temperature Coefficient | -200 ppm/°C, ±100ppm/°C | | | | |
| Dielectric Strength | Terminal to Terminal | | | | |
| | 200% of rated VDC applied for 2 Seconds and 25°C | | | | |
| Dielectric | Polypropylene | | | | |
| Construction | Aluminum foil with internal series connection and metalized film | | | | |
| Coating | Flame Retardant polyester tape wrap (UL 510) with epoxy resin end fill(UL94V0) | | | | |
| Leads | Lead free tinned copper leads | | | | |





| WVDC | 630 | | 1000 | | 1500 | | 2000 | |
|--------------|--------------|------------|-------------|-----------|---------------|-------------|---------------|-------------|
| Capacitance | $C \leq .22$ | $C > 0.22$ | $C \leq .1$ | $C > 0.1$ | $C \leq .047$ | $C > 0.047$ | $C \leq .033$ | $C > 0.033$ |
| $d \pm 0.05$ | 0.8 | 1.0 | 0.8 | 1.0 | 0.8 | 1.0 | 0.8 | 1.0 |

PWS

Axial Lead Metallized film
with foil electrodes
Polypropylene Capacitors

| Capacitance (µF) | WVDC | IC PART NUMBER | dv/dt (v/µ sec.) | Dims DxL (mm) |
|------------------|------|----------------|------------------|---------------|
| 0.001 | 2000 | 102PWS202KD | 27000 | 9.5x21 |
| 0.0015 | 2000 | 152PWS202KD | 27000 | 10.5x21 |
| 0.0022 | 1500 | 222PWS152KD | 17000 | 9.5x21 |
| 0.0022 | 2000 | 222PWS202KD | 27000 | 12.5x21 |
| 0.0033 | 1000 | 332PWS102KD | 14000 | 9x21 |
| 0.0033 | 1500 | 332PWS152KD | 17000 | 10.5x21 |
| 0.0033 | 2000 | 332PWS202KG | 9800 | 9.5x29 |
| 0.0047 | 1000 | 472PWS102KD | 14000 | 7x19 |
| 0.0047 | 1500 | 472PWS152KD | 17000 | 12.5x21 |
| 0.0047 | 1500 | 472PWS152KG | 6000 | 9x29 |
| 0.0047 | 2000 | 472PWS202KG | 9800 | 10.5x29 |
| 0.0068 | 1000 | 682PWS102KD | 14000 | 12x21 |
| 0.0068 | 1000 | 682PWS102KG | 5000 | 8.5x29 |
| 0.0068 | 1500 | 682PWS152KG | 6000 | 9.5x29 |
| 0.0068 | 2000 | 682PWS202KG | 9800 | 12x29 |
| 0.01 | 1000 | 103PWS102KG | 5000 | 9x29 |
| 0.01 | 1500 | 103PWS152KG | 6000 | 10.5x29 |
| 0.01 | 2000 | 103PWS202KG | 9800 | 14x29 |
| 0.015 | 630 | 153PWS630KD | 4300 | 9x21 |
| 0.015 | 1000 | 153PWS102KG | 5000 | 10.5x29 |
| 0.015 | 1500 | 153PWS152KG | 6000 | 12.5x29 |
| 0.015 | 2000 | 153PWS202KG | 9800 | 16.5x29 |
| 0.022 | 630 | 223PWS630KD | 4300 | 10x21 |
| 0.022 | 1000 | 223PWS102KG | 5000 | 12x29 |
| 0.022 | 1500 | 223PWS152KG | 6000 | 14.5x29 |
| 0.022 | 2000 | 223PWS202KJ | 7000 | 16.5x34 |

| Capacitance (µF) | WVDC | IC PART NUMBER | dv/dt (v/µ sec.) | Dims DxL (mm) |
|------------------|------|----------------|------------------|---------------|
| 0.033 | 630 | 333PWS630KD | 4300 | 12x21 |
| 0.033 | 630 | 333PWS630KG | 2600 | 9.5x29 |
| 0.033 | 1000 | 333PWS102KG | 5000 | 14x29 |
| 0.033 | 1500 | 333PWS152KG | 6000 | 18x29 |
| 0.033 | 1500 | 333PWS152KJ | 4500 | 15x34 |
| 0.033 | 2000 | 333PWS202KJ | 7000 | 20x34 |
| 0.047 | 630 | 473PWS630KG | 2600 | 10.5x29 |
| 0.047 | 1000 | 473PWS102KG | 5000 | 17x29 |
| 0.047 | 1000 | 473PWS102KJ | 3700 | 14.5x34 |
| 0.047 | 1500 | 473PWS152KJ | 4500 | 17.5x34 |
| 0.047 | 2000 | 473PWS202KJ | 7000 | 22.5x34 |
| 0.068 | 630 | 683PWS630KG | 2600 | 12x29 |
| 0.068 | 1000 | 683PWS102KJ | 3700 | 17x34 |
| 0.068 | 1500 | 683PWS152KJ | 4500 | 20.5x34 |
| 0.068 | 2000 | 683PWS202KJ | 7000 | 27x34 |
| 0.1 | 630 | 104PWS630KG | 2600 | 14x29 |
| 0.1 | 1000 | 104PWS102KJ | 3700 | 19.5x34 |
| 0.1 | 1500 | 104PWS152KJ | 4500 | 24x34 |
| 0.15 | 630 | 154PWS630KG | 2600 | 17x29 |
| 0.15 | 630 | 154PWS630KJ | 1800 | 14.5x34 |
| 0.15 | 1000 | 154PWS102KJ | 3700 | 23.5x34 |
| 0.22 | 630 | 224PWS630KJ | 1800 | 17x34 |
| 0.22 | 1000 | 224PWS102KJ | 3700 | 28x34 |
| 0.33 | 630 | 334PWS630KJ | 1800 | 20x34 |
| 0.47 | 630 | 474PWS630KJ | 1800 | 24x34 |