

Snubber Capacitors - Axial Leaded

multicomp PRO

**RoHS
Compliant**

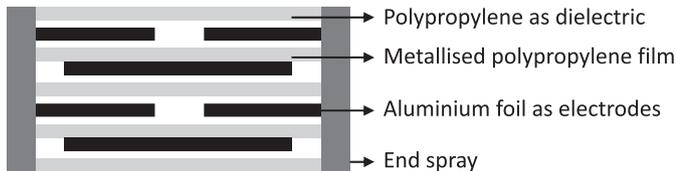


Features

- Self-healing property
- High DV / DT
- Low ESR
- Low loss polypropylene dielectric
- Reference standard-IEC 61071

Construction

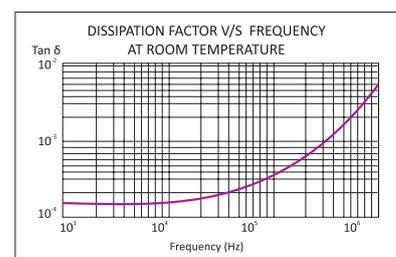
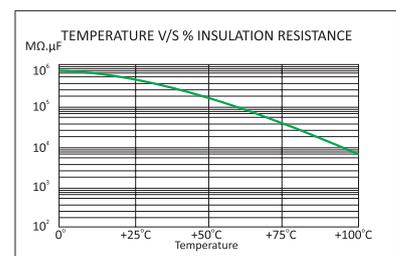
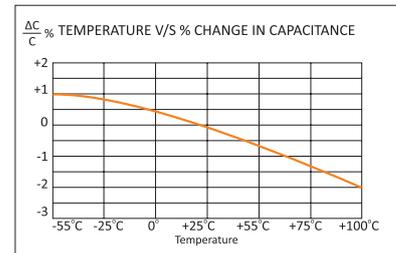
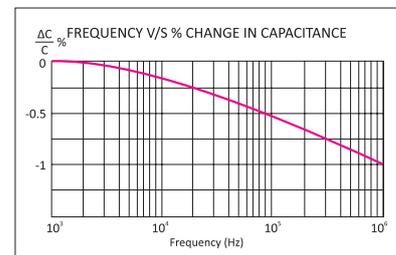
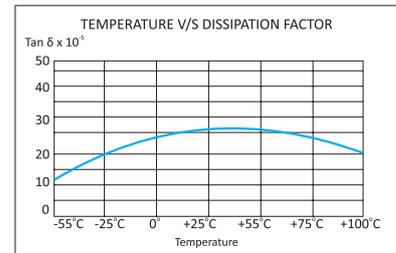
Extended foil electrodes with metallised polypropylene dielectric internal series connection



Applications

These capacitors are used in high voltage, high current and high pulse applications such as:

- "Turn On" and "Turn Off" snubber circuits
- Energy conversion and control in power electronics
- Protection circuits in SMPS



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Technical Specifications

Physical Characteristics

| | |
|----------------------|--|
| Dielectric material | : Polypropylene film |
| Electrode material | : Aluminium foil and metallised polypropylene film |
| Winding construction | : Extended foil electrodes with metallised polypropylene dielectric internal series connection |
| Terminal | : Tinned copper |
| Enclosure | : UL 94 V-0 polyester tape wrap with thermosetting resin end-fill |

Electrical Characteristics

| | |
|--|--|
| Capacitance range | : 0.068 μ F to 1.5 μ F |
| Capacity tolerance | : \pm 10% |
| Rated voltage VDC | : 850,1000,1200,1600,2000,2500,3000 |
| Rated voltage VAC | : 450,500,500,630,630,750,750 |
| Test voltage between terminals | : 1.6 x rated voltage V DC for 10 seconds |
| Test voltage terminal to case | : 3KV AC at 50Hz for 60 seconds |
| Dissipation factor | : 0.0005 at 1kHz and 25°C |
| Temperature range | : -40°C to +85°C |
| Insulation resistance at 25°C & at a test voltage of 500 VDC applied for 1minute | : C \leq 0.33 μ F \geq 100,000M Ω C $>$ 0.33 μ F \geq 30,000M Ω |

Marking on Capacitors

Each capacitor will have the following information printed on it,sequentially:

- The Company name in words
- The capacitor grade viz MP-9
- The capacitance value μ F
- The rated voltage V DC
- Capacity tolerance and manufacturing date code
- Design reference number on non-standard capacitors

Working voltage 850 V DC (450 V AC)

| Rated Capacitance μ F | Dimensions in mm * | | | | DV/DT V/u Sec | I Peak Amps | Irms Max at 100kHz & 70°C Amps | Typical ESR at 100kHz m Ω | Part Number |
|---------------------------|--------------------|-------|-------|-----|---------------|-------------|--------------------------------|----------------------------------|-------------|
| | T max | W max | L max | d | | | | | |
| 0.22 | 12 | 18 | 34 | 1 | 800 | 176 | 8 | 6 | MP004162 |
| 0.33 | 14 | 20 | 34 | 1 | 800 | 264 | 9.4 | 5 | MP004166 |
| 0.47 | 17 | 25 | 34 | 1 | 800 | 376 | 11.7 | 5 | MP004171 |
| 0.68 | 19 | 25 | 46 | 1.2 | 500 | 340 | 13.8 | 4 | MP004175 |
| 1 | 22 | 33 | 46 | 1.2 | 500 | 500 | 14.4 | 3 | MP004179 |
| 1.5 | 21 | 32 | 54 | 1.2 | 400 | 600 | 20.3 | 2 | MP004182 |
| 1.2 | 18 | 28 | 54 | 1.2 | 400 | 480 | 16.7 | 3 | MP004184 |

Newark.com/multicomp-pro
Farnell.com/multicomp-pro
Element14.com/multicomp-pro

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Working Voltage 1000 V DC (500 V AC)

| Rated Capacitance μF | Dimensions in mm * | | | | DV/DT V/ μ Sec | I Peak Amps | Irms Max at 100kHz & 70°C Amps | Typical ESR at 100kHz m Ω | Part Number |
|------------------------------------|--------------------|----------|----------|-----|-----------------------|----------------|--------------------------------------|-------------------------------------|-------------|
| | T max | W max | L max | d | | | | | |
| 0.22 | 12 | 18 | 34 | 1 | 800 | 176 | 8 | 6 | MP004158 |
| 0.33 | 14 | 23 | 34 | 1 | 800 | 264 | 9.4 | 5 | MP004163 |
| 0.47 | 17 | 25 | 34 | 1 | 800 | 376 | 11.7 | 5 | MP004167 |
| 0.68 | 19 | 25 | 46 | 1.2 | 500 | 340 | 13.8 | 4 | MP004172 |
| 1 | 22 | 33 | 46 | 1.2 | 500 | 500 | 14.4 | 3 | MP004176 |
| 1.2 | 18 | 28 | 54 | 1.2 | 400 | 480 | 16.7 | 3 | MP004180 |
| 1.5 | 21 | 32 | 54 | 1.2 | 400 | 600 | 20.3 | 2 | MP004181 |

Working voltage 1200 V DC (500 V AC)

| Rated Capacitance μF | Dimensions in mm * | | | | DV/DT V/ μ Sec | I Peak Amps | Irms Max at 100kHz & 70°C Amps | Typical ESR at 100kHz m Ω | Part Number |
|------------------------------------|--------------------|----------|----------|-----|-----------------------|----------------|--------------------------------------|-------------------------------------|-------------|
| | T max | W max | L max | d | | | | | |
| 0.22 | 12.5 | 19 | 34 | 1 | 1000 | 220 | 10.2 | 6 | MP004159 |
| 0.33 | 13.5 | 20.5 | 46 | 1.2 | 800 | 264 | 10.8 | 6 | MP004164 |
| 0.47 | 19.5 | 25.5 | 46 | 1.2 | 800 | 376 | 11.7 | 5 | MP004168 |
| 0.68 | 20.5 | 29 | 46 | 1.2 | 800 | 544 | 13.6 | 5 | MP004173 |
| 1 | 31 | 30 | 54 | 1.2 | 700 | 700 | 16.2 | 4 | MP004177 |
| 1.2 | 22 | 32 | 54 | 1.2 | 700 | 840 | 16.8 | 3 | MP004178 |

Working Voltage 1600V DC (630V AC)

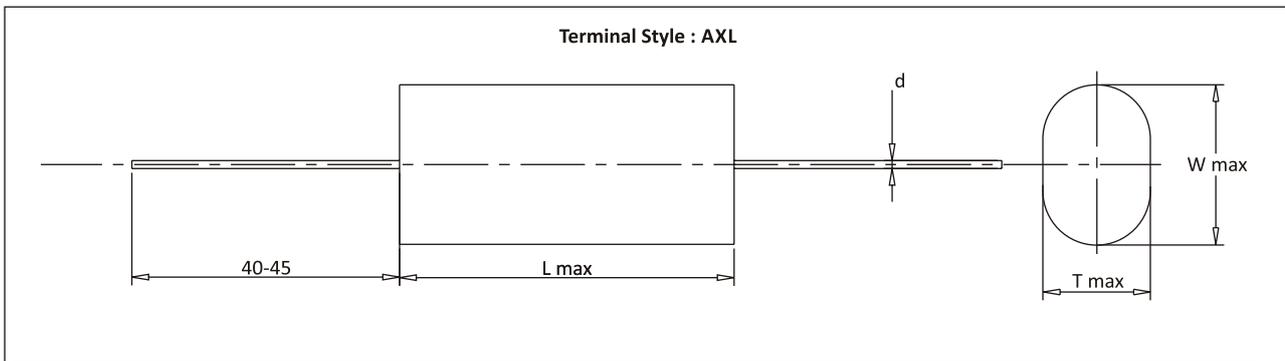
| Rated Capacitance μF | Dimensions in mm * | | | | DV/DT V/ μ Sec | I Peak Amps | Irms Max at 100kHz & 70°C Amps | Typical ESR at 100kHz m Ω | Part Number |
|------------------------------------|--------------------|----------|----------|-----|-----------------------|----------------|--------------------------------------|-------------------------------------|-------------|
| | T max | W max | L max | d | | | | | |
| 0.15 | 16 | 21 | 34 | 1 | 1100 | 165 | 10 | 7 | MP004157 |
| 0.22 | 18 | 25 | 34 | 1.2 | 1100 | 242 | 12 | 7 | MP004160 |
| 0.33 | 17 | 23 | 46 | 1.2 | 900 | 297 | 12 | 6 | MP004165 |
| 0.47 | 21.5 | 28.5 | 46 | 1.2 | 900 | 423 | 13.8 | 6 | MP004169 |
| 0.68 | 23.5 | 34 | 46 | 1.2 | 900 | 612 | 14.5 | 6 | MP004174 |

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Working voltage 2000 V DC (630 V AC)

| Rated Capacitance MFD | Dimensions in mm * | | | | Case Code | DV/DT V/ μ Sec | I Peak Amps | I _{rms} Max at 100kHz & 70°C Amps | Typical ESR at 100kHz m Ω | Part Number |
|-----------------------|--------------------|------|------|-----|-----------|--------------------|-------------|--|----------------------------------|-------------|
| | Tmax | Wmax | Lmax | d | | | | | | |
| 0.22 | 16 | 27 | 46 | 1 | PS | 950 | 209 | 11 | 6 | MP004161 |
| 0.47 | 19 | 33 | 54 | 1.2 | PU | 850 | 400 | 15 | 5 | MP004170 |
| 0.33 | 18 | 27 | 54 | 1.2 | PT | 850 | 280 | 12.8 | 5 | MP004183 |

Capacitor Drawing and Terminal Style



Dimensions : Millimetres

Precaution

1. These capacitors are not suitable for 'across the line' applications
2. V AC {rated}: Frequency should be less than 1000Hz
3. V DC {rated}: $1.4 \times V_{rms} + V_{DC}$ should be less than rated V DC
4. MAX ESR = Typical ESR + 30%

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