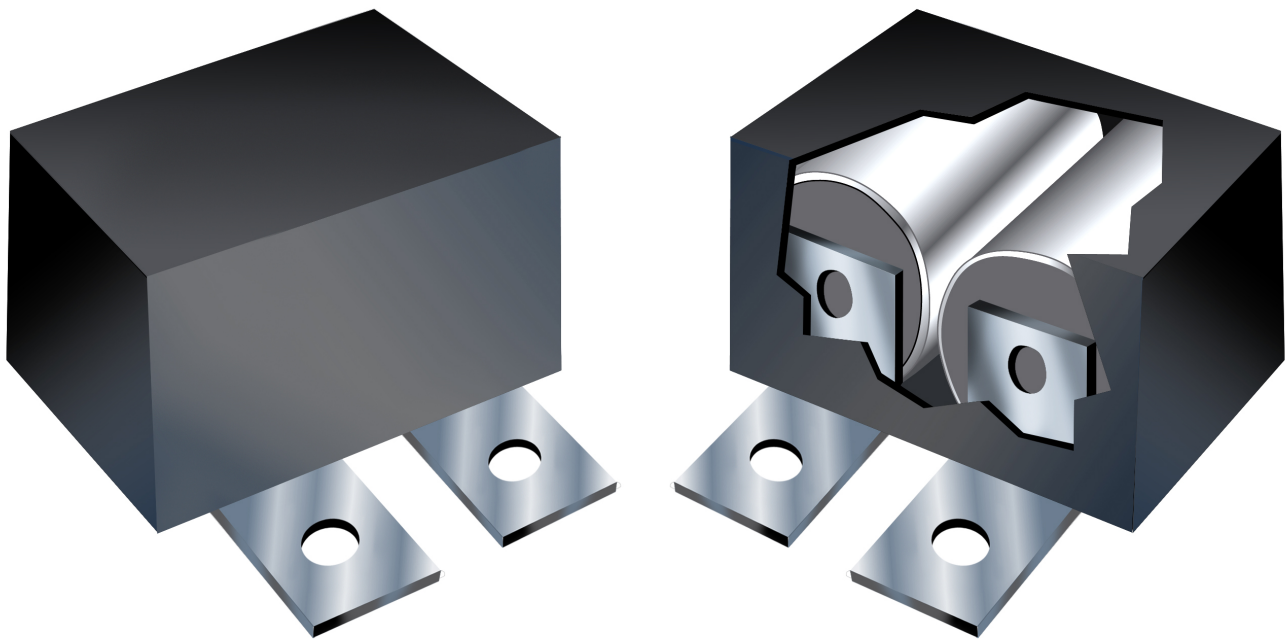


Metallized Polypropylene and Polypropylene & Foil constructions

Snubber capacitors - Key dual element design with no internal wires lowers inductance up to 70%, with higher reliability. ESR as low as 0.0019OHMS; less than 15nH; ripple current to 46.2amps; dv/dt to 13,174v/ μ s.



FEATURES

- No internal wire connections
- Direct-to-element tab attachment
- Terminals spacing 23-28mm

STANDARD CONFIGURATION

- Straight terminals (A)
- Offset terminals (B)

Specification Summary

Capacitance Range

0.10µF to 2.5µF

Capacitance Tolerance

Standard tolerance is ± 10%. Tolerances of ±5%, and ±20% also available. NOTE: Capacitance is measured at 25°C, and at a frequency of 1KHZ for all values.

Operating Temperature Range

-55°C to +105°C

Enclosure/ Construction

Extended foil

Voltage Rating

VDC: 800VDC to 3000 VDC VAC: 400VAC to 920 VAC

| Parameter | Method | Condition |
|-----------|--------|-----------|
| Vibration | 204 | D |
| Immersion | 104 | B |
| Shock | 213 | I |
| Humidity | 106 | - |
| Life Test | 108 | F |

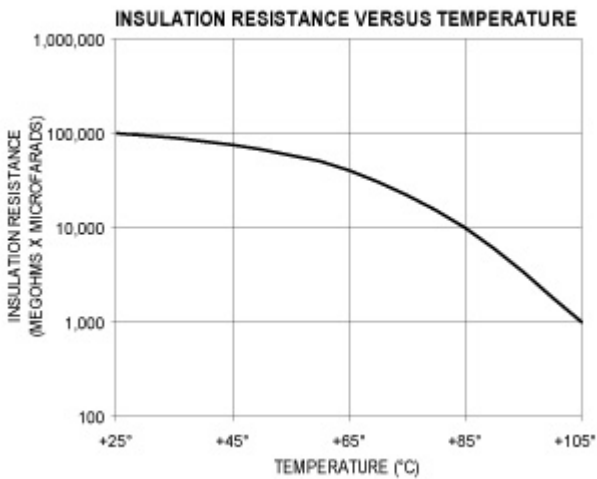
Reference MIL-STD-202

Characteristics

Insulation Resistance

| | | | | |
|------------------------|---------|--------|-------|--|
| MP88 | 25 | 85 | 105 | |
| Temperature(°C) | | | | |
| Megaohms x Microfarads | 50,000 | 5,000 | 150 | |
| PT88 Temperature (°C) | 25 | 85 | 105 | |
| Megaohms x Microfarads | 100,000 | 10,000 | 1,000 | |

Insulation Resistance



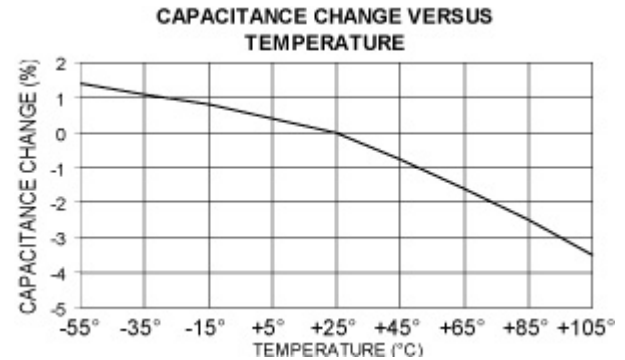
Dielectric Strength

Capacitors withstand a DC potential of 1.5 x rated voltage for one (1) minute without damage or breakdown. Test voltage is applied and discharged through a minimum resistance of 100 OHMS per volt.

Capacitance Change

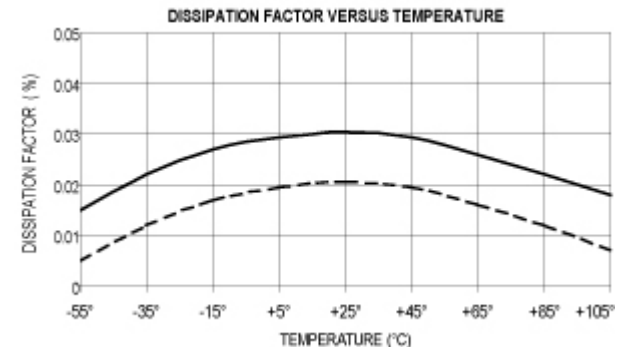
| | | | | |
|-----------------------------|-----|----|------|--|
| Temperature(°C) | -55 | 25 | 105 | |
| Percentage Change (Typical) | 1.6 | 0 | -2.2 | |

Capacitance Change



Dissipation Factor

When measured at the frequency specified for capacitance measurement, the dissipation factor will not exceed 0.10% for style MP88 or 0.05% for style PT88.



ELECTRICAL DATA

| EC PART NUMBER | Cap (µF) | VDC | VAC | ESR (100kHz) | 25°C (Arms) | 50°C (Arms) | 85°C (Arms) | I PEAK (Amps) | DV/DT (v/µs) | ESL (nH) | Fres (kHz) | CASE NO. |
|----------------|----------|------|-----|--------------|-------------|-------------|-------------|---------------|--------------|----------|------------|----------|
| PT88BG104- | 0.10 | 800 | 400 | 0.0036 | 26.4 | 21.9 | 13.5 | 1317 | 13174 | <15 | 4062 | 1 |
| PT88BG124- | 0.12 | 800 | 400 | 0.0032 | 27.9 | 23.2 | 14.2 | 1475 | 12295 | <15 | 3708 | 1 |
| PT88BG154- | 0.15 | 800 | 400 | 0.0029 | 29.4 | 24.5 | 15.0 | 1581 | 10539 | <15 | 3317 | 1 |
| PT88BG184- | 0.18 | 800 | 400 | 0.0026 | 30.8 | 25.6 | 15.7 | 1739 | 9661 | <15 | 3028 | 1 |
| PT88BG224- | 0.22 | 800 | 400 | 0.0024 | 32.2 | 26.8 | 16.5 | 1932 | 8782 | <15 | 2739 | 1 |
| PT88BG274- | 0.27 | 800 | 400 | 0.0022 | 33.7 | 28.0 | 17.2 | 2134 | 7904 | <15 | 2472 | 1 |
| PT88BG334- | 0.33 | 800 | 400 | 0.0020 | 34.9 | 29.0 | 17.8 | 2319 | 7026 | <15 | 2236 | 1 |
| PT88BG394- | 0.39 | 800 | 400 | 0.0023 | 41.6 | 34.6 | 21.3 | 2157 | 5531 | <25 | 1613 | 2 |
| PT88BG474- | 0.47 | 800 | 400 | 0.0022 | 43.0 | 35.8 | 22.0 | 2363 | 5029 | <25 | 1469 | 2 |
| PT88BG564- | 0.56 | 800 | 400 | 0.0020 | 44.2 | 36.7 | 22.6 | 2534 | 4526 | <25 | 1346 | 2 |
| PT88BG684- | 0.68 | 800 | 400 | 0.0019 | 45.9 | 38.1 | 23.4 | 2907 | 4274 | <25 | 1222 | 2 |
| PT88BG754- | 0.75 | 800 | 400 | 0.0019 | 46.2 | 38.4 | 23.6 | 2923 | 3897 | <25 | 1163 | 2 |
| PT88BL104- | 0.10 | 1000 | 400 | 0.0036 | 26.4 | 21.9 | 13.5 | 1317 | 13174 | <15 | 4062 | 1 |
| PT88BL124- | 0.12 | 1000 | 400 | 0.0032 | 27.9 | 23.2 | 14.2 | 1475 | 12295 | <15 | 3708 | 1 |
| PT88BL154- | 0.15 | 1000 | 400 | 0.0029 | 29.4 | 24.5 | 15.0 | 1581 | 10539 | <15 | 3317 | 1 |
| PT88BL184- | 0.18 | 1000 | 400 | 0.0026 | 30.8 | 25.6 | 15.7 | 1739 | 9661 | <15 | 3028 | 1 |
| PT88BL224- | 0.22 | 1000 | 400 | 0.0024 | 32.2 | 26.8 | 16.5 | 1932 | 8782 | <15 | 2739 | 1 |
| PT88BL274- | 0.27 | 1000 | 400 | 0.0022 | 33.7 | 28.0 | 17.2 | 2134 | 7904 | <15 | 2472 | 1 |
| PT88BL334- | 0.33 | 1000 | 400 | 0.0025 | 40.3 | 33.6 | 20.6 | 1991 | 6034 | <25 | 1753 | 2 |
| PT88BL394- | 0.39 | 1000 | 400 | 0.0023 | 41.6 | 34.6 | 21.3 | 2157 | 5531 | <25 | 1613 | 2 |
| PT88BL474- | 0.47 | 1000 | 400 | 0.0022 | 43.0 | 35.8 | 22.0 | 2363 | 5029 | <25 | 1469 | 2 |
| PT88BL564- | 0.56 | 1000 | 400 | 0.0020 | 44.2 | 36.7 | 22.6 | 2534 | 4526 | <25 | 1346 | 2 |
| PT88BN104- | 0.10 | 1200 | 400 | 0.0036 | 26.4 | 21.9 | 13.5 | 1317 | 13174 | <15 | 4062 | 1 |
| PT88BN124- | 0.12 | 1200 | 400 | 0.0032 | 27.9 | 23.2 | 14.2 | 1475 | 12295 | <15 | 3708 | 1 |
| PT88BN154- | 0.15 | 1200 | 400 | 0.0029 | 29.4 | 24.5 | 15.0 | 1581 | 10539 | <15 | 3317 | 1 |
| PT88BN184- | 0.18 | 1200 | 400 | 0.0026 | 30.8 | 25.6 | 15.7 | 1739 | 9661 | <15 | 3028 | 1 |
| PT88BN224- | 0.22 | 1200 | 400 | 0.0024 | 32.2 | 26.8 | 16.5 | 1932 | 8782 | <15 | 2739 | 1 |
| PT88BN274- | 0.27 | 1200 | 400 | 0.0026 | 39.1 | 32.6 | 20.0 | 1901 | 7040 | <25 | 1939 | 2 |
| PT88BN334- | 0.33 | 1200 | 400 | 0.0025 | 40.3 | 33.6 | 20.6 | 1991 | 6034 | <25 | 1753 | 2 |
| PT88BN394- | 0.39 | 1200 | 400 | 0.0023 | 41.6 | 34.6 | 21.3 | 2157 | 5531 | <25 | 1613 | 2 |
| PT88BN474- | 0.47 | 1200 | 400 | 0.0022 | 43.0 | 35.8 | 22.0 | 2363 | 5029 | <25 | 1469 | 2 |

| EC PART NUMBER | Cap (µF) | VDC | VAC | ESR (100kHz) | 25°C (Arms) | 50°C (Arms) | 85°C (Arms) | I PEAK (Amps) | DV/DT (v/µs) | ESL (nH) | Fres (kHz) | CASE NO. |
|----------------|----------|-----|-----|--------------|-------------|-------------|-------------|---------------|--------------|----------|------------|----------|
| MP88BG394- | 0.39 | 800 | 460 | 0.0077 | 18.0 | 14.9 | 9.2 | 295 | 758 | <15 | 2057 | 1 |
| MP88BG474- | 0.47 | 800 | 460 | 0.0073 | 18.6 | 15.4 | 9.5 | 320 | 682 | <15 | 1874 | 1 |
| MP88BG564- | 0.56 | 800 | 460 | 0.0069 | 19.0 | 15.8 | 9.7 | 339 | 606 | <15 | 1717 | 1 |
| MP88BG684- | 0.68 | 800 | 460 | 0.0063 | 19.9 | 16.6 | 10.2 | 386 | 568 | <15 | 1558 | 1 |
| MP88BG754- | 0.75 | 800 | 460 | 0.0062 | 20.1 | 16.7 | 10.3 | 398 | 530 | <15 | 1483 | 1 |
| MP88BG824- | 0.82 | 800 | 460 | 0.0058 | 20.7 | 17.2 | 10.6 | 435 | 530 | <15 | 1419 | 1 |
| MP88BG105- | 1.00 | 800 | 460 | 0.0056 | 21.1 | 17.5 | 10.8 | 455 | 455 | <15 | 1285 | 1 |
| MP88BG125- | 1.20 | 800 | 460 | 0.0073 | 23.4 | 19.5 | 12.0 | 452 | 377 | <25 | 920 | 2 |
| MP88BG145- | 1.40 | 800 | 460 | 0.0068 | 24.2 | 20.2 | 12.4 | 496 | 354 | <25 | 851 | 2 |
| MP88BG155- | 1.50 | 800 | 460 | 0.0065 | 24.8 | 20.7 | 12.7 | 532 | 354 | <25 | 822 | 2 |
| MP88BG185- | 1.80 | 800 | 460 | 0.0063 | 25.3 | 21.0 | 12.9 | 558 | 310 | <25 | 751 | 2 |
| MP88BG205- | 2.00 | 800 | 460 | 0.0061 | 25.6 | 21.3 | 13.1 | 576 | 288 | <25 | 712 | 2 |
| MP88BG225- | 2.20 | 800 | 460 | 0.0060 | 25.7 | 21.4 | 13.1 | 585 | 266 | <25 | 679 | 2 |
| MP88BG255- | 2.50 | 800 | 460 | 0.0056 | 26.8 | 22.3 | 13.7 | 664 | 266 | <25 | 637 | 2 |

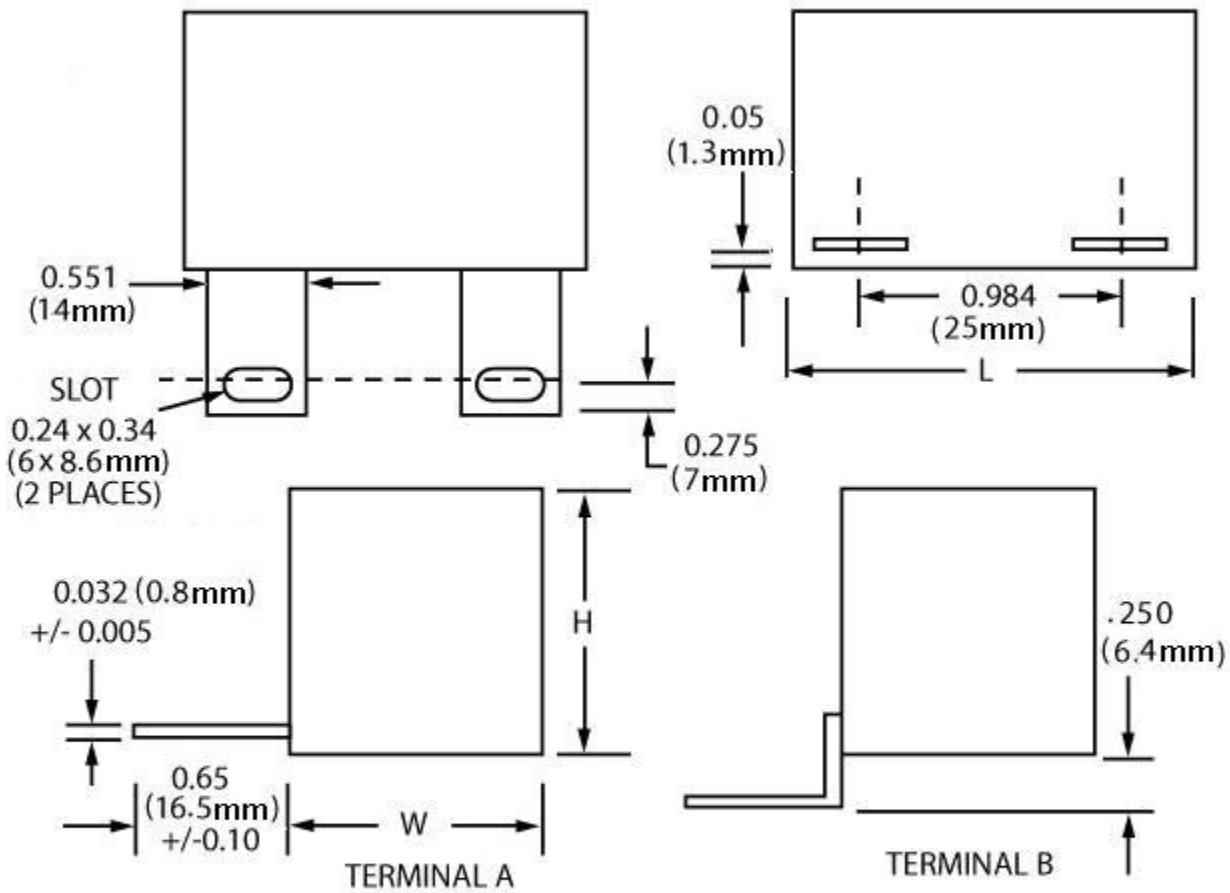
Note: The tenth character of the part number represents terminal configuration (A or B). See diagram.

| EC PART NUMBER | Cap (µF) | VDC | VAC | ESR (100kHz) | 25°C (Arms) | 50°C (Arms) | 85°C (Arms) | I PEAK (Amps) | DV/DT (v/µs) | ESL (nH) | Fres (kHz) | CASE NO. |
|----------------|----------|------|-----|--------------|-------------|-------------|-------------|---------------|--------------|----------|------------|----------|
| MP88BL334- | 0.33 | 1000 | 460 | 0.0082 | 17.4 | 14.5 | 8.9 | 275 | 833 | <15 | 2236 | 1 |
| MP88BL394- | 0.39 | 1000 | 460 | 0.0077 | 18.0 | 14.9 | 9.2 | 295 | 758 | <15 | 2057 | 1 |
| MP88BL474- | 0.47 | 1000 | 460 | 0.0073 | 18.6 | 15.4 | 9.5 | 320 | 682 | <15 | 1874 | 1 |
| MP88BL564- | 0.56 | 1000 | 460 | 0.0069 | 19.0 | 15.8 | 9.7 | 339 | 606 | <15 | 1717 | 1 |
| MP88BL684- | 0.68 | 1000 | 460 | 0.0063 | 19.9 | 16.6 | 10.2 | 386 | 568 | <15 | 1558 | 1 |
| MP88BL754- | 0.75 | 1000 | 460 | 0.0062 | 20.1 | 16.7 | 10.3 | 398 | 530 | <15 | 1483 | 1 |
| MP88BL824- | 0.82 | 1000 | 460 | 0.0089 | 21.2 | 17.6 | 10.8 | 345 | 421 | <25 | 1112 | 2 |
| MP88BL105- | 1.00 | 1000 | 460 | 0.0080 | 22.4 | 18.6 | 11.4 | 399 | 399 | <25 | 1007 | 2 |
| MP88BL125- | 1.20 | 1000 | 460 | 0.0073 | 23.4 | 19.5 | 12.0 | 452 | 377 | <25 | 920 | 2 |
| MP88BL145- | 1.40 | 1000 | 460 | 0.0068 | 24.2 | 20.2 | 12.4 | 496 | 354 | <25 | 851 | 2 |
| MP88BL155- | 1.50 | 1000 | 460 | 0.0065 | 24.8 | 20.7 | 12.7 | 532 | 354 | <25 | 822 | 2 |
| MP88BL185- | 1.80 | 1000 | 460 | 0.0063 | 25.3 | 21.0 | 12.9 | 558 | 310 | <25 | 751 | 2 |
| MP88BN274- | 0.27 | 1200 | 460 | 0.0090 | 16.7 | 13.9 | 8.5 | 245 | 909 | <15 | 2472 | 1 |
| MP88BN334- | 0.33 | 1200 | 460 | 0.0082 | 17.4 | 14.5 | 8.9 | 275 | 833 | <15 | 2236 | 1 |
| MP88BN394- | 0.39 | 1200 | 460 | 0.0077 | 18.0 | 14.9 | 9.2 | 295 | 758 | <15 | 2057 | 1 |
| MP88BN474- | 0.47 | 1200 | 460 | 0.0073 | 18.6 | 15.4 | 9.5 | 320 | 682 | <15 | 1874 | 1 |
| MP88BN564- | 0.56 | 1200 | 460 | 0.0069 | 19.0 | 15.8 | 9.7 | 339 | 606 | <15 | 1717 | 1 |
| MP88BN684- | 0.68 | 1200 | 460 | 0.0096 | 20.4 | 17.0 | 10.4 | 316 | 465 | <25 | 1222 | 2 |
| MP88BN754- | 0.75 | 1200 | 460 | 0.0092 | 20.8 | 17.3 | 10.6 | 332 | 443 | <25 | 1163 | 2 |
| MP88BN824- | 0.82 | 1200 | 460 | 0.0089 | 21.2 | 17.6 | 10.8 | 345 | 421 | <25 | 1112 | 2 |
| MP88BN105- | 1.00 | 1200 | 460 | 0.0080 | 22.4 | 18.6 | 11.4 | 399 | 399 | <25 | 1007 | 2 |
| MP88BN125- | 1.20 | 1200 | 460 | 0.0073 | 23.4 | 19.5 | 12.0 | 452 | 377 | <25 | 920 | 2 |
| MP88BN145- | 1.40 | 1200 | 460 | 0.0068 | 24.2 | 20.2 | 12.4 | 496 | 354 | <25 | 851 | 2 |
| MP88BT104- | 0.10 | 1600 | 920 | 0.0086 | 17.0 | 14.2 | 8.7 | 313 | 3125 | <15 | 4062 | 1 |
| MP88BT124- | 0.12 | 1600 | 920 | 0.0080 | 17.7 | 14.7 | 9.0 | 338 | 2813 | <15 | 3708 | 1 |
| MP88BT154- | 0.15 | 1600 | 920 | 0.0073 | 18.5 | 15.4 | 9.5 | 375 | 2500 | <15 | 3317 | 1 |
| MP88BT184- | 0.18 | 1600 | 920 | 0.0069 | 19.0 | 15.8 | 9.7 | 394 | 2188 | <15 | 3028 | 1 |
| MP88BT224- | 0.22 | 1600 | 920 | 0.0062 | 20.0 | 16.6 | 10.2 | 447 | 2031 | <15 | 2739 | 1 |
| MP88BT274- | 0.27 | 1600 | 920 | 0.0057 | 20.9 | 17.4 | 10.7 | 506 | 1875 | <15 | 2472 | 1 |
| MP88BT334- | 0.33 | 1600 | 920 | 0.0072 | 23.5 | 19.5 | 12.0 | 488 | 1478 | <25 | 1753 | 2 |
| MP88BT394- | 0.39 | 1600 | 920 | 0.0070 | 23.9 | 19.9 | 12.2 | 504 | 1293 | <25 | 1613 | 2 |
| MP88BT474- | 0.47 | 1600 | 920 | 0.0062 | 25.5 | 21.2 | 13.0 | 608 | 1293 | <25 | 1469 | 2 |
| MP88BT564- | 0.56 | 1600 | 920 | 0.0060 | 25.7 | 21.4 | 13.2 | 621 | 1109 | <25 | 1346 | 2 |
| MP88CA104- | 0.10 | 2000 | 920 | 0.0086 | 17.0 | 14.2 | 8.7 | 313 | 3125 | <15 | 4062 | 1 |
| MP88CA124- | 0.12 | 2000 | 920 | 0.0080 | 17.7 | 14.7 | 9.0 | 338 | 2813 | <15 | 3708 | 1 |
| MP88CA154- | 0.15 | 2000 | 920 | 0.0073 | 18.5 | 15.4 | 9.5 | 375 | 2500 | <15 | 3317 | 1 |
| MP88CA184- | 0.18 | 2000 | 920 | 0.0069 | 19.0 | 15.8 | 9.7 | 394 | 2188 | <15 | 3028 | 1 |
| MP88CA224- | 0.22 | 2000 | 920 | 0.0084 | 21.8 | 18.1 | 11.1 | 406 | 1848 | <25 | 2148 | 2 |
| MP88CA274- | 0.27 | 2000 | 920 | 0.0078 | 22.7 | 18.9 | 11.6 | 449 | 1663 | <25 | 1939 | 2 |
| MP88CA334- | 0.33 | 2000 | 920 | 0.0072 | 23.5 | 19.5 | 12.0 | 488 | 1478 | <25 | 1753 | 2 |
| MP88CA394- | 0.39 | 2000 | 920 | 0.0070 | 23.9 | 19.9 | 12.2 | 504 | 1293 | <25 | 1613 | 2 |
| MP88CB104- | 0.10 | 2400 | 920 | 0.0086 | 17.0 | 14.2 | 8.7 | 313 | 3125 | <15 | 4062 | 1 |
| MP88CB124- | 0.12 | 2400 | 920 | 0.0080 | 17.7 | 14.7 | 9.0 | 338 | 2813 | <15 | 3708 | 1 |
| MP88CB154- | 0.15 | 2400 | 920 | 0.0073 | 18.5 | 15.4 | 9.5 | 375 | 2500 | <15 | 3317 | 1 |
| MP88CB184- | 0.18 | 2400 | 920 | 0.0092 | 20.8 | 17.3 | 10.6 | 366 | 2032 | <25 | 2374 | 2 |
| MP88CB224- | 0.22 | 2400 | 920 | 0.0084 | 21.8 | 18.1 | 11.1 | 406 | 1848 | <25 | 2148 | 2 |
| MP88CB274- | 0.27 | 2400 | 920 | 0.0078 | 22.7 | 18.9 | 11.6 | 449 | 1663 | <25 | 1939 | 2 |
| MP88CB334- | 0.33 | 2400 | 920 | 0.0072 | 23.5 | 19.5 | 12.0 | 488 | 1478 | <25 | 1753 | 2 |
| MP88CD104- | 0.10 | 3000 | 920 | 0.0086 | 17.0 | 14.2 | 8.7 | 313 | 3125 | <15 | 4062 | 1 |
| MP88CD124- | 0.12 | 3000 | 920 | 0.0080 | 17.7 | 14.7 | 9.0 | 338 | 2813 | <15 | 3708 | 1 |
| MP88CD154- | 0.15 | 3000 | 920 | 0.0100 | 19.9 | 16.6 | 10.2 | 333 | 2217 | <25 | 2601 | 2 |
| MP88CD184- | 0.18 | 3000 | 920 | 0.0092 | 20.8 | 17.3 | 10.6 | 366 | 2032 | <25 | 2374 | 2 |
| MP88CD224- | 0.22 | 3000 | 920 | 0.0084 | 21.8 | 18.1 | 11.1 | 406 | 1848 | <25 | 2148 | 2 |



Note: The tenth character of the part number represents terminal configuration (A or B). See diagram.

STYLE



ALL DIMENSIONS IN INCHES. UNLESS OTHERWISE NOTED. TOLERANCE ON DIMENSIONS IS +/- 10%

| CASE | L | W | H |
|------|---------------|---------------|---------------|
| 1 | 1.62 (41.1mm) | 1.00 (25.4mm) | 1.00 (25.4mm) |
| 2 | 1.67 (42.4mm) | 1.38 (35.0mm) | 1.27 (32.3mm) |

ADDITIONAL INFORMATION

A performance alternative to conventional capacitors for across-the-buss power applications including motors, electric vehicles, controllers, high power converters and power conditioning systems.

The LO-HENRY® 88 SERIES provides the marketplace with a high performance snubber capacitor within a conventional package. The MP88/PT88's dual element design with no internal wire connections provides a higher degree of in-the-field reliability. Uses encompass a wide range of motor applications, electric vehicles, controllers, high power converters and power conditioning systems.

HOW TO ORDER

| | | |
|--|---|-------------|
| TYPE MP: Metallized Polypropylene PT: Film Foil | → | MP88 |
| STYLE / VOLTAGE BG=800VDC, BL=1000VDC, etc. | → | BG |
| CAPACITANCE IN PICO FARADS The first two digits are significant figures, the third digit represents the number of zeros to follow to express the capacitance in picofarads | → | 394 |
| TOLERANCE Standard tolerance is ± 10%. Tolerances of ±5%, and ±20% also available. | → | K |

Marking And Date Code

All capacitors are marked with company initials "EC", corporate logo or EC trademark—in addition to type MP88/PT88, capacitance, tolerance, rated DC working voltage and date code. The first two digits of the date code represent the year, the second two digits the week, i.e., 0952 is the 52nd week of 2009, 0902 is the second week of 2009.

Quality Assurance

Major emphasis is placed on quality assurance. EC is an ISO 9001-2000 and AS9100:2004 Certified Company. Raw material inspection and the use of SPC manufacturing procedures assure the highest quality standards. Procedures are fully described in the EC Quality Control Manual. Electronic Concepts will continue to advance the state-of-the-art by utilizing leading edge technology, compact capacitor designs and establishing reliability procedures.

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