

✚ Product Features

- Four Dielectrics:
Standard PTFE/ High Temp PTFE
Polypropylene
Polycarbonate
- SMD and lead-through-hole mounting
- Top, Bottom and Side Mount models
- Wide capacitance ranges
- Low cost
- Linear capacitance change vs. rotation
- Compact size

✚ Product Applications

Typical Applications:

- Antennas • Transmitters
- RF Equipment • Instruments

Modifications & Variations:

- Special capacitance ranges
- Special terminal sizes & shapes
- Extended Adjust shafts
- High temperature versions for PTFE
- Silver and/or Gold Plating



✚ Specifications

| | |
|----------------------------------|---|
| Dielectrics | <ul style="list-style-type: none">• High Temperature PTFE• Standard PTFE• Polypropylene (PP)• Polycarbonate (PC) |
| Voltage Rating | 200/300VDC |
| Dielectric Withstanding Voltage: | 250/500 WVDC |
| Contact Resistance: | ≤ 0.010mΩ |
| Insulation Resistance: | ≥10,000MΩ |
| Torque: | 0.15...3.5Ncm |

✚ Production Qualification

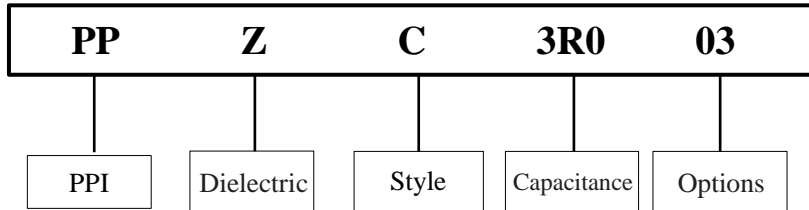
FilmTrim Capacitors are in accordance with DIN IEC 418-1 and 4-former DIN 44261 part 3.

Testing methods for manufacturing quality are in accordance with MIL-STD-105D and IEC410 (former DIN44260).

Solderability or heat resistance for the FilmTrim Capacitors comply with DIN IEC 68-2-20 part 2, Test Ta and Tb.

Each FilmTrim Capacitor is tested for minimum and maximum capacitance value and is also subjected to full test voltage.

≠ Part Numbering



≠ Dielectrics

| Dielectrics | |
|-------------|--------------------------------|
| Code | Description |
| X | PTFE (Polytetrafluoroethylene) |
| Y | PP (Polypropylene) |
| Z | PC (Polycarbonate) |

≠ Style

| Style | |
|-------|-------------------------|
| Code | Description |
| C | 9.5mm Top/Bottom Adjust |
| D | 9.5mm Side Adjust |
| F* | 9.5mm Top/Bottom Adjust |
| T* | 9.5mm Side Adjust |

** Extended Temperature range: -40 to +125°C
For other modifications such as high temperature base material or special lead plating, contact PPI.*

≠ Capacitance

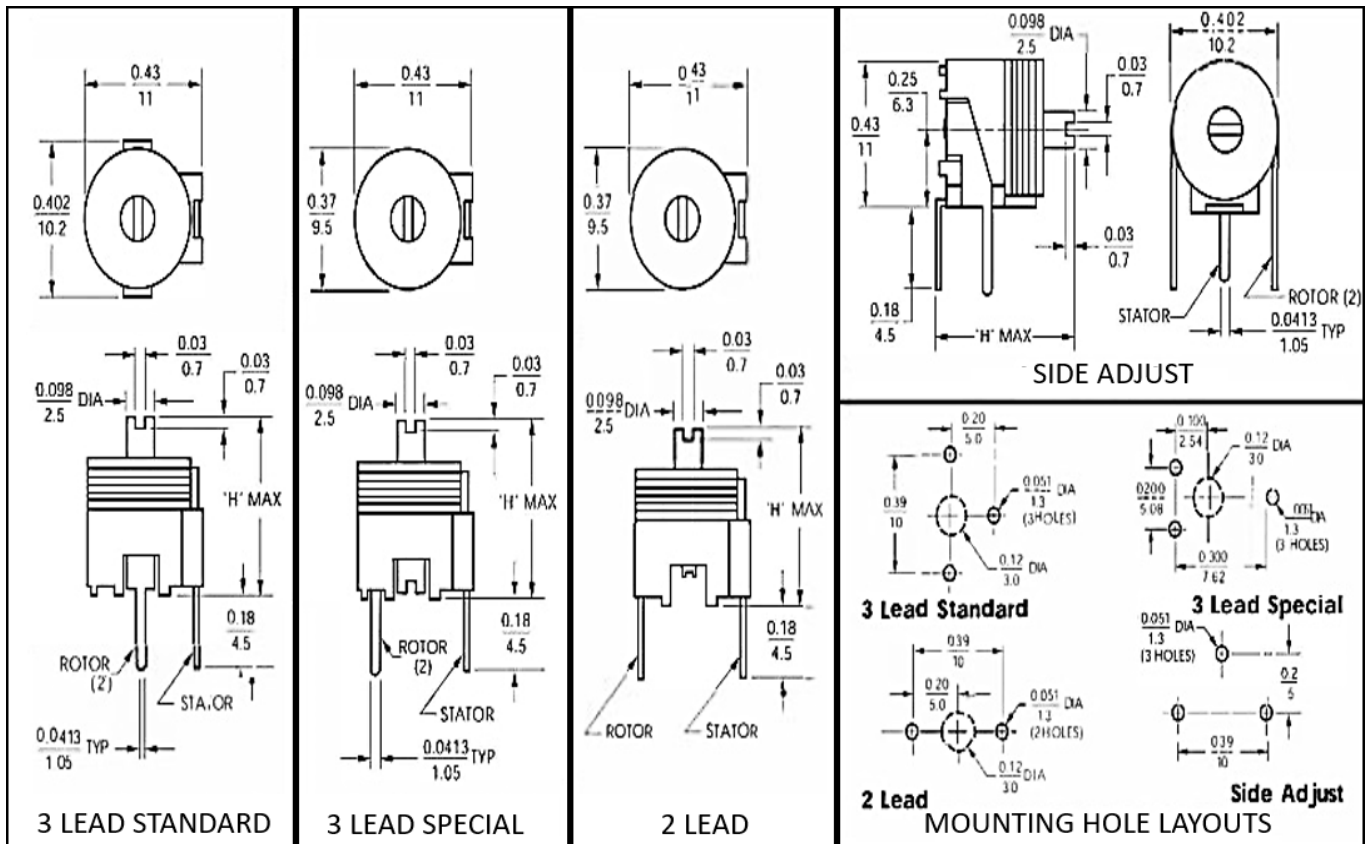
| Capacitance Code |
|------------------|
| 2R0 = 2.0pF |
| 400 = 40pF |
| 151 = 150pF |

≠ Special Options

| Special Options (Top Adjust Models) | |
|--|-----------------------|
| Code | Description |
| 00 | Standard |
| 03 | 9.5mm, 3 lead special |
| 04 | 9.5mm, 2 leads |



All dimensions are in/ mm.



• Gold plated metal parts are standard on GXF and GXT models shown above.



≠ Specifications

| Dielectric | Capacitance (pF) | | Q min (1MHz) | TCC (ppm/°C) | Operating Temperature (°C) | H max in/mm | Color Code | Model Number | | |
|----------------|------------------|-------|--------------|--------------|----------------------------|-------------|------------|--------------|----------------|-----------|
| | min | max | | | | | | 3 Lead | 3 Lead Special | 2 Lead |
| PTFE | 2.0 | 13.0 | 1500 | -100±300 | -40°C...+85°C | 0.40 / 10.2 | Blue | PPXC13000 | PPXC13003 | PPXC13004 |
| | 3.0 | 26.0 | | -100±250 | | 0.40 / 10.2 | Green | PPXC26000 | PPXC26003 | PPXC26004 |
| | 3.5 | 38.0 | | -100±200 | | 0.40 / 10.2 | Grey | PPXC38000 | PPXC38003 | PPXC38004 |
| | 5.5 | 60.0 | | -100±200 | | 0.45 / 11.4 | Yellow | PPXC60000 | PPXC60003 | PPXC60004 |
| | 6.0 | 75.0 | | -100±200 | | 0.45 / 11.4 | Red | PPXC75000 | PPXC75003 | PPXC75004 |
| | 8.0 | 90.0 | | -100±200 | | 0.47 / 12.0 | Violet | PPXC90000 | PPXC90003 | PPXC90004 |
| | 10.0 | 150.0 | | -100±200 | | 0.47 / 12.0 | Orange | PPXC15100 | PPXC15103 | PPXC15104 |
| PTFE | 2.0 | 13.0 | 1500 | -100±250 | -40°C...+85°C | 0.40 / 10.2 | Blue | PPXD13000 | | |
| | 3.0 | 26.0 | | -100±250 | | 0.40 / 10.2 | Green | PPXD26000 | | |
| | 3.5 | 38.0 | | -100±200 | | 0.40 / 10.2 | Grey | PPXD38000 | | |
| | 5.5 | 60.0 | | -100±200 | | 0.45 / 11.4 | Yellow | PPXD60000 | | |
| | 6.0 | 75.0 | | -100±200 | | 0.45 / 11.4 | Red | PPXD75000 | | |
| | 8.0 | 90.0 | | -100±200 | | 0.47 / 12.0 | Violet | PPXD90000 | | |
| | 10.0 | 150.0 | | -100±200 | | 0.47 / 12.0 | Orange | PPXD15100 | | |
| PTFE High Temp | 2.2 | 9.0 | 1500 | -100±150 | -40°C...+125°C | 0.40 / 10.2 | Green | PPXF9R000 | PPXF9R003 | PPXF9R004 |
| | 2.5 | 15.0 | | -100±150 | | 0.40 / 10.2 | Red | PPXF15000 | PPXF15003 | PPXF15004 |
| | 3.0 | 25.0 | | -100±150 | | 0.40 / 10.2 | Grey | PPXF25000 | PPXF25003 | PPXF25004 |
| | 4.0 | 40.0 | | -100±150 | | 0.40 / 10.2 | Yellow | PPXF40000 | PPXF40003 | PPXF40004 |
| | 5.5 | 60.0 | | -100±150 | | 0.45 / 11.4 | Blue | PPXF60000 | PPXF60003 | PPXF60004 |
| | 6.0 | 75.0 | | -100±150 | | 0.45 / 11.4 | Violet | PPXF75000 | PPXF75003 | PPXF75004 |
| | 8.0 | 90.0 | | -100±150 | | 0.49 / 12.4 | Orange | PPXF90000 | PPXF90003 | PPXF90004 |
| PTFE High Temp | 2.2 | 9.0 | 1500 | -100±150 | -40°C...+125°C | 0.40 / 10.2 | Green | PPXT9R000 | | |
| | 2.5 | 15.0 | | -100±150 | | 0.40 / 10.2 | Red | PPXT15000 | | |
| | 3.0 | 25.0 | | -100±150 | | 0.40 / 10.2 | Grey | PPXT25000 | | |
| | 4.0 | 40.0 | | -100±150 | | 0.45 / 11.4 | Yellow | PPXT40000 | | |
| | 5.5 | 60.0 | | -100±150 | | 0.45 / 11.4 | Blue | PPXT60000 | | |
| | 6.0 | 75.0 | | -100±150 | | 0.45 / 11.4 | Violet | PPXT75000 | | |
| | 8.0 | 90.0 | | -100±150 | | 0.49 / 12.4 | Orange | PPXT90000 | | |
| Polypropylene | 2.0 | 15.0 | 1000 | 0±400 | -40°C...+70°C | 0.40 / 10.2 | Blue | PPYC15000 | PPYC15003 | PPYC15004 |
| | 3.0 | 20.0 | | 0±300 | | 0.40 / 10.2 | Green | PPYC20000 | PPYC20003 | PPYC20004 |
| | 3.5 | 40.0 | | -50±150 | | 0.40 / 10.2 | Grey | PPYC40000 | PPYC40003 | PPYC40004 |
| | 4.5 | 60.0 | | -50±300 | | 0.40 / 10.2 | Yellow | PPYC60000 | PPYC60003 | PPYC60004 |

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≠ Specifications

| Dielectric | Capacitance (pF) | | Q min (1MHz) | TCC (ppm/°C) | Operating Temperature (°C) | H max in/mm | Color Code | Model Number | | |
|---------------|------------------|-------|--------------|--------------|----------------------------|-------------|------------|--------------|----------------|-----------|
| | min | max | | | | | | 3 Lead | 3 Lead Special | 2 Lead |
| Polypropylene | 2.0 | 15.0 | 1000 | 0±400 | -40°C...+70°C | 0.40 / 10.2 | Blue | PPYD15000 | | |
| | 3.0 | 20.0 | | 0±300 | | 0.40 / 10.2 | Green | PPYD20000 | | |
| | 3.5 | 40.0 | | -50±150 | | 0.40 / 10.2 | Grey | PPYD40000 | | |
| | 4.5 | 60.0 | | -50±300 | | 0.40 / 10.2 | Yellow | PPYD60000 | | |
| Polycarbonate | 7.0 | 80.0 | 500 | 0±200 | -40°C...+85°C | 0.40 / 10.2 | Red | PPZC80000 | PPZC80003 | PPZC80004 |
| | 8.0 | 100.0 | | +100±300 | | 0.45 / 11.4 | Violet | PPZC10100 | PPZC10103 | PPZC10104 |
| | 9.0 | 120.0 | | +100±250 | | 0.45 / 11.4 | Orange | PPZC12100 | PPZC12103 | PPZC12104 |
| | 10.0 | 150.0 | | +100±250 | | 0.47 / 12.0 | Orange | PPZC15100 | PPZC15103 | PPZC15104 |
| | 12.0 | 180.0 | | +100±250 | | 0.47 / 12.0 | Orange | PPZC18100 | PPZC18103 | PPZC18104 |
| Polycarbonate | 7.0 | 80.0 | 500 | 0±200 | -40°C...+85°C | 0.40 / 10.2 | Red | PPZD80000 | | |
| | 8.0 | 100.0 | | +100±300 | | 0.45 / 11.4 | Violet | PPZD10100 | | |
| | 9.0 | 120.0 | | +100±250 | | 0.45 / 11.4 | Orange | PPZD12100 | | |
| | 10.0 | 150.0 | | +100±250 | | 0.47 / 12.0 | Orange | PPZD15100 | | |
| | 12.0 | 180.0 | | +100±250 | | 0.47 / 12.0 | Orange | PPZD18100 | | |



≠ Specifications Notes

- 1 Parts are 100% tested for capacitance range and dielectric withstanding voltage.
- 2 Capacitance range specified is that which is guaranteed and is measured at 1 MHz at room temperature.
- 3 Q factor is measured at maximum rated capacitance and at room temperature.
- 4 Dielectric strength is measured at maximum rated capacitance and room temperature, with test voltage (as listed for each model) applied for 60 seconds.
- 5 Insulation resistance is measured at maximum rated capacitance and room temperature and at rated voltage, unless otherwise specified.
- 6 Temperature coefficient of capacitance (TCC) is measured at 1 MHz over the operating temperature range, with capacitor set at maximum rated capacitance.
- 7 Axial load during tuning should not exceed 200 grams force. At maximum axial load, capacitance change is no more than 15%.
- 8 Capacitors should not be operated outside of rated capacitance range and working voltage.

≠ Soldering FilmTrim Capacitors

Dip soldering:

260°C ± 10°C for 7 seconds maximum.

Hand Soldering

(for lead-through-hole models):

Tip temperature 350°C ± 10°C for 3 to 4 seconds



≠ Cleaning FilmTrim Capacitors

- Water soluble fluxes and detergents with a
- 1 water flush after soldering of the boards can be used for all parts.

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- 2 Do not immerse FilmTrim models in chlorinated or fluorinated hydrocarbon solvents as this would adversely affect the plastic dielectrics and base materials. Some customers have successfully used X models in scrubbers or sprayers where only bottom of the printed circuit boards is exposed to solvents.

If the process requires immersion in solvents for cleaning boards, the FilmTrim capacitors should be hand soldered to board after the boards have been cleaned.