FilmTrim Variable Capacitors

5mm Top Adjust

Product Features

- Dielectrics:
  Standard PTFE
  Polyimide
- SMD and lead-through-hole mounting
- Top Mount models
- Wide capacitance ranges
- Low cost
- Linear capacitance change vs. rotation
- Q = 200 @ 1 MHz
- PPM/°C: +150±250
- Compact size

Product Applications

Typical Applications:

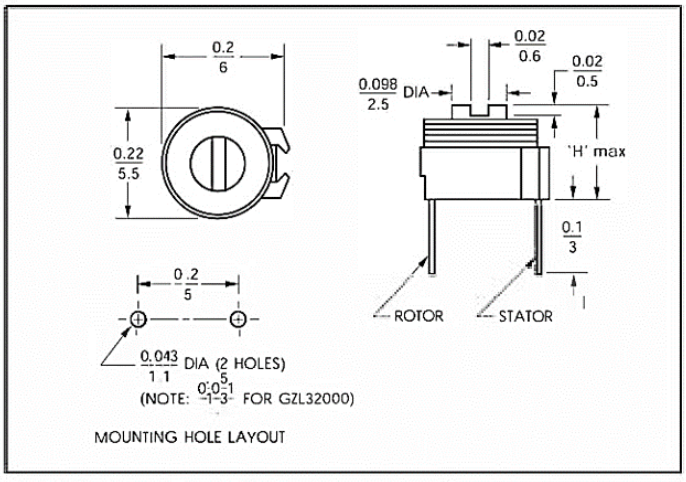
- Antennas • Transmitters
- RF Equipment • Instruments

Modifications & Variations:

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

Specifications

Dielectrics	• High Temperature PTFE • Polyimide (PI)
Voltage Rating	150 VDC
Dielectric Withstanding Voltage	300 VDC
Contact Resistance	≤0.010mΩ
Insulation Resistance	≥10.000MΩ
Rotation Torque	Cmax <20pF 0.10…1.5Ncm Cmax >20pF 0.15…2.5Ncm



All dimensions are in/mm.

For requests for options such as special adjustments, pin configurations, dielectrics, etc., please contact PPI directly.

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.

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5mm Top Adjust

Part Numbering

PP	Z	L	1R3	00
PPI	Dielectric	Style	Capacitance	Options

Dielectrics

Dielectrics	
Code	**Description**
X	PTFE (Polytetrafluoroethylene)
Z	PC (Polycarbonate) or PI (Polyimide)

Capacitance

Capacitance Code
1R6 = 1.6pF
320 = 32.0pF

Style

Style	
Code	**Description**
L	5mm Top Adjust

Special Options

Special Options (Top Adjust Models)	
Code	**Description**
00	Standard

Dielectric	Capacitance (pF) min	Capacitance (pF) max	Q min (1MHz)	TCC (ppm/°C)	Operating Temperature (°C)	H max in/mm	Color Code	Model Number
PTFE*	0.8	3.0	1500	-100±250	-40°…+125°C	0.20 / 5.0	Brown	PPXL3R000
	0.9	4.0	1500	-100±250		0.20 / 5.0	Brown	PPXL4R000
	1	5.0	1500	-100±250		0.20 / 5.0	Brown	PPXL5R000
	1.3	8.0	1500	-100±200		0.23 / 5.8	Black	PPXL8R000
	1.8	10.0	1500	-100±200		0.23 / 5.8	Black	PPXL10000
	2	15.0	1500	-100±200		0.24 / 6.0	White	PPXL15000
	2.5	18.0	1500	-100±200		0.24 / 6.0	Green	PPXL18000
PI	1.0	5.0	300	-100±250	-40°…+85°C	0.20 / 5.0	Brown	PPZL5R000
	1.2	8.0	300	-100±250		0.20 / 5.0	Brown	PPZL8R000
	1.3	10.0	300	-100±250		0.20 / 5.0	Black	PPZL10000
	2.0	15.0	300	-100±250		0.23 / 5.8	White	PPZL15000
	2.7	20.0	300	-100±250		0.23 / 5.8	Green	PPZL20000
	2.8	25.0	300	-100±250		0.23 / 5.8	Green	PPZL25000
	3.6	32.0	300	-100±250		0.25 / 6.3	Red	PPZL32000

*Version B001 (with high temperature body) for applications with high resistance to soldering heat (min. 15 sec/ 250°C) available.

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

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