

Product Features

- 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:

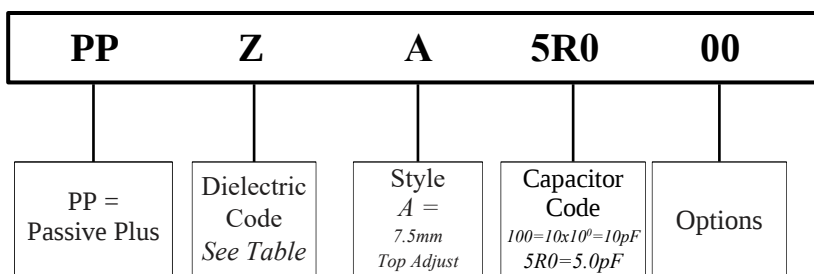
- Antennas • Transmitters
- RF Equipment
- Test Equipment

Modifications & Variations:

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



Part Numbering



For special requests, please contact ☐ directly.

Dielectrics

Dielectrics	
Code	Description
X	PTFE (Polytetrafluoroethylene)
Y	PP (Polypropylene)
Z	PC (Polycarbonate) or PI (Polyimide)

Style

Style	
Code	Description
A	7.5mm Top/Bottom Adjust
B	7.5mm Side Adjust
E*	7.5mm Top/Bottom Adjust
R*	7.5mm Side Adjust

* Extended Temperature range: -40 to +125°C

Capacitance

Capacitance Code
2R0 = 2.0pF
270 = 27pF

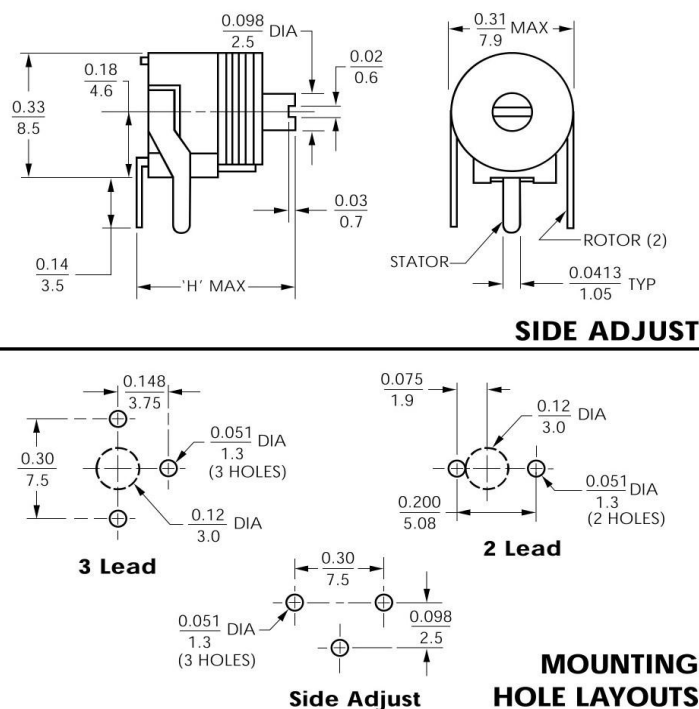
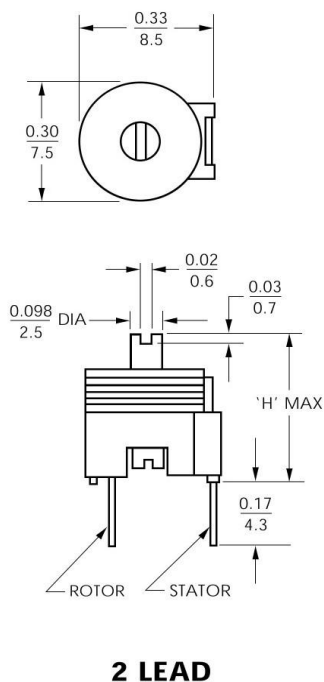
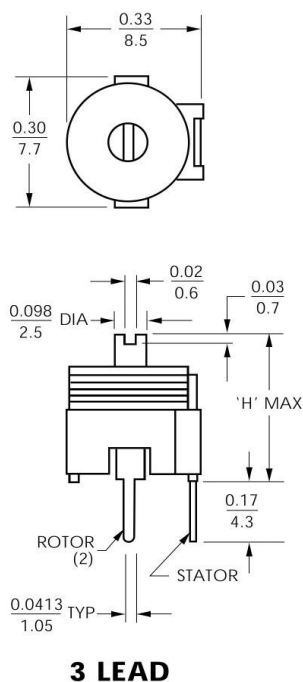
Special Options

Special Options (Top Adjust Models)	
Code	Description
00	Standard
02	7.5mm, 2 leads



Electrical Specifications

Dielectrics	• High Temperature PTFE • Standard PTFE • Polypropylene (PP) • Polycarbonate (PC)
Voltage Rating	200V High Temp PTFE 100V all other Dielectrics
Dielectric Withstanding Voltage	300V High Temp PTFE 200V all other Dielectrics
Contact Resistance	$\leq 0.010\text{m}\Omega$
Insulation Resistance	$\geq 10,000\text{M}\Omega$
Rotation Torque	0.15....3.5Ncm



All dimensions are in/mm.



General Specifications

Dielectric	Capacitance (pF)		Q min (1MHz)	TCC (ppm/°C)	Operating Temperature (°C)	H max in/mm	Color Code	Model Number			Non Magnetic 3 Lead
	min	max						Top/Bottom 3 Lead	Top/Bottom 2 Lead	Side Adjust	
PTFE	1.3	5.0	1500	-100±250	-40 to +85	0.40/10.2	Grey	PPXA5R000	PPXA5R002	PPXB5R000	
	1.5	9.0		-100±250	-40 to +85	0.40/10.2	Yellow	PPXA9R000	PPXA9R002	PPXB9R000	
	2.0	18		-100±200	-40 to +125	0.40/10.2	Green	PPXA18000	PPXA18002	PPXB18000	
	3.9	27		-100±200	-40 to +125	0.40/10.2	Red	PPXA27000	PPXA27002	PPXB27000	
	4.5	36		-100±200	-40 to +125	0.45/11.4	Violet	PPXA36000	PPXA36002	PPXB36000	
	5.0	45		-100±200	-40 to +125	0.45/11.4	Orange	PPXA45000	PPXA45002	PPXB45000	
PTFE High Temp	1.3	5.0	1500	-100±150	-40 to +125	0.40/10.2	Grey	PPXE5R000	PPXE5R002	PPXR5R000	PPXE5R000NM
	1.5	9.0				0.40/10.2	Yellow	PPXE9R000	PPXE9R002	PPXR9R000	PPXE9R000NM
	2.6	18				0.40/10.2	Green	PPXE18000	PPXE18002	PPXR18000	PPXE18000NM
	3.5	27				0.40/10.2	Red	PPXE27000	PPXE27002	PPXR27000	PPXE27000NM
	4.5	36				0.45/11.4	Violet	PPXE36000	PPXE36002	PPXR36000	PPXE36000NM
	5.0	45				0.45/11.4	Orange	PPXE45000	PPXE45002	PPXR45000	PPXE45000NM
PP	1.3	5.0	1000	-100±300	-40 to +70	0.40/10.2	Grey	PPYA5R000	PPYA5R002	PPYB5R000	
	1.5	10				0.40/10.2	Yellow	PPYA10000	PPYA10002	PPYB10000	
	2.0	15				0.40/10.2	Blue	PPYA15000	PPYA15002	PPYB15000	
	2.2	22				0.40/10.2	Green	PPYA22000	PPYA22002	PPYB22000	
	2.3	27				0.40/10.2	Red	PPYA27000	PPYA27002	PPYB27000	
	3.0	36				0.40/10.2	Violet	PPYA36000	PPYA36002		
PC	2.5	30	200	+150±250	-40 to +85	0.40/10.2	Red	PPZA30000	PPZA30002	PPZB30000	
	4.0	40		+150±250		0.40/10.2	Violet	PPZA40000	PPZA40002	PPZB40000	

*Gold plated metal parts are standard on PPXE and PPXR models above.

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.



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 water flush after soldering of the boards can be used for all parts.

- 1 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.
- 2 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.