GIGAHERTZ TRIMMER CAPACITORS

Description

- **Gigahertz trimmers** are tiny trimmer capacitors which provide a straight-forward technique for fine tuning RF and microwave circuits.
- **Gigahertz trimmers** withstand the rigors of soldering heat, excessive tuning and rough handling. As a result of the excellent dielectric and insulation properties of the sapphire or ceramic housing, high breakdown voltage is achieved. Incorporating the self-locking constant torque drive mechanism, they offer many improvements a fixed length, increased Q, essentially zero tuning noise and reduced susceptibility to solder flux intrusion during installation.
- **Vertical Surface Mount Gigahertz trimmers** versions are available, with models 3, 7 and 8, offering a good mechanical stability on the circuit board. Self resonant frequency of **Vertical surface mount Gigahertz trimmers** versions is improving when the width of the terminal is increasing. They are available on tape and reel with permanent sealing cap which resists intrusion of solder flux and cleaning agents and allows easy access to the tuning rotor.
- **Surface Mount SM series** offer a rectangular outline with horizontal tuning axis.
- **Non magnetic Gigahertz trimmer** version available.
- **NEW** : Extended range Gigahertz trimmers designed for applications such as RF power amplifiers feature a 25 to 35% size reduction

Features

- High Q and high resonant frequency
- Excellent tuning stability and low dynamic noise
- 2 temperature coefficients available
- Very fine resolution
- Resistant to soldering heat
- Meet MIL-C-14409 and ESA/SCC 3010
- 500 VDC working voltage
- High ratio capacitance/volume
- Removable or permanent sealing caps

Applications

- Base station amplifier
- Filter tuning
- Crystal trimmIng
- Impedance matching
- Interstage coupling

Gigahertz trimmers - Standard & non magnetic trimmers

Standard Gigahertz trimmers

Characteristics

Range	See table	
Voltage	Rated 500 VDC Test 1000 VDC	Typ. breakdown 1500 VDC
Operating temperature	-55°C to +125°C	Stable over full range
Temp. Coeff.	See table	Measured at 75%Max cap.
Contact resistance	<0.01Ω	Low dynamic noise
Thermal shock	-55°C to +125°C	

Insulating resistance	$>10^4$ MΩ @ 500 VDC	Measured at 25°C and 50% RH
Rotational life	>800 revolutions	Meets MIL-C-14409
Torque size 6 **Sizes 7, 8 and 9**	7 to 60 cN.cm 10 to 100 cN.cm	Average 30 cN.cm Average 60 cN.cm
Vibration	60g, 10-2000 Hz	Meets MIL-STD-202E, Method 204C
Shock	100g, 6ms	Meets MIL-STD-202E Method 213B
Self resonant frequency	>12 GHz	Operates B to C band

Technical data

Standard Series	Capacitance range (pF)	Turns	Q factor at Max capacitance	Temp. Coeff. ppm/°C X = 2	Temp. Coeff. ppm/°C X = 3
ATX726 series	0.3 - 1.2	>4	>5000 @ 250 MHz	0 ± 50	350 ± 75
ATX727 series	0.6 – 4.5	>8	>3000 @ 250 MHz	0 ± 50	350 ± 75
ATX728 series	0.4 – 2.5	>4	>4000 @ 250 MHz	0 ± 50	350 ± 75
ATX729 series	0.8 – 8.0	>16	>3000 @ 100 MHz	0 ± 75	350 ± 75

For models 7 and 8 add 0.05 pF to minimum capacitance

Standard SM Series	Capacitance range (pF)	Turns	Q factor at Max capacitance	Temp. Coeff. ppm/°C
AT SM 260	0.3 - 1.2	>4	>5000 @ 250 MHz	-50 ± 75
AT SM 270	0.6 – 4.5	>8	>3000 @ 250 MHz	-50 ± 75
AT SM 280	0.4 – 2.5	>4	>4000 @ 250 MHz	-50 ± 75
AT SM 290	0.8 – 8.0	>16	>3000 @ 100 MHz	-50 ± 75

Dimensions

Size	A	B	C	D	E	F	G	H	L	R1	R2
6	5.8	1.9	2.0	2.0	1.9	3.0	4.0	5.9	3.1	2.3	2.8
7	8.0	3.0	3.2	4.0	2.8	4.2	2.5	5.9	4.1	2.8	3.3
8	5.8	3.0	2.0	2.3	2.8	4.2	3.6	5.9	4.1	2.8	3.3
9	12.3	3.0	6.4	6.4	2.8	4.2	3.1	5.9	4.1	2.8	3.3

Non-magnetic Gigahertz trimmer

Description

Non magnetic Gigahertz trimmer capacitors, made of non magnetic metal silver plated, are designed for MRI, NMR and spectroscopy applications

Characteristics

Low magnetic signature and same others characteristics as standard Gigahertz trimmer capacitors.

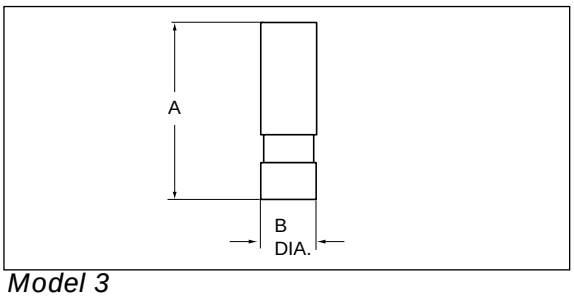
Technical data

Reference	Capacitance range (pF)	Turns	Q factor at Max capacitance	Temp. Coeff.ppm/°C
AT57290	0.8 – 8.0	>16	>3000@100 MHz	350 ± 75

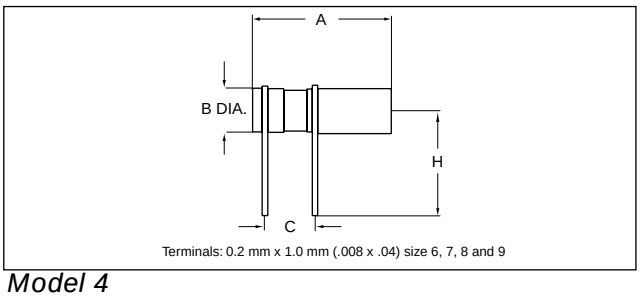
Dimensions

Same as size 9, model 0.

Model 0

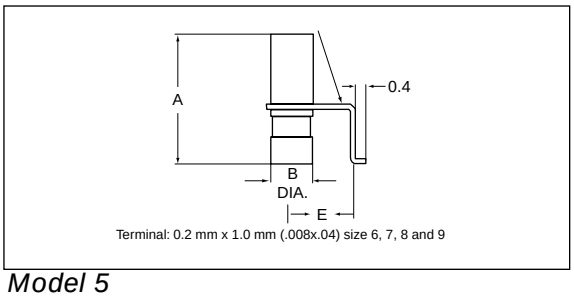


Model 1



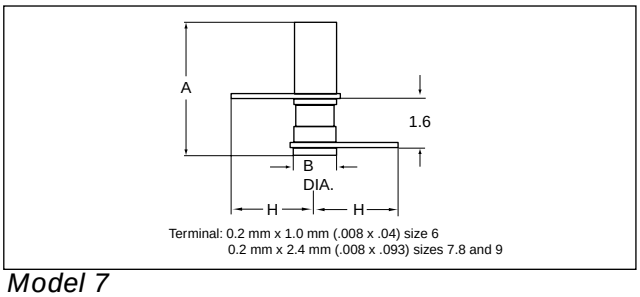
Terminals: 0.2 mm x 1.0 mm (.008 x .04) size 6, 7, 8 and 9

Model 3



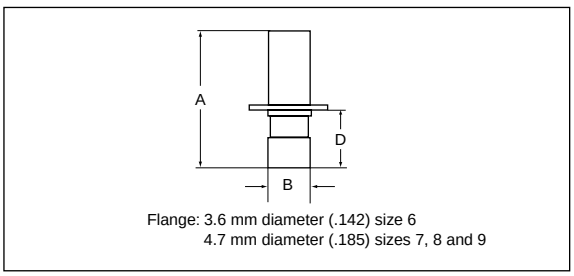
Terminal: 0.2 mm x 1.0 mm (.008x.04) size 6, 7, 8 and 9

Model 4



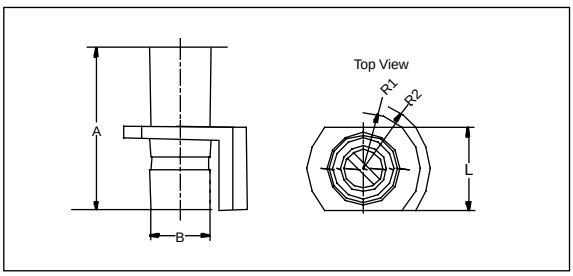
Terminal: 0.2 mm x 1.0 mm (.008 x .04) size 6
0.2 mm x 2.4 mm (.008 x .093) sizes 7.8 and 9

Model 5

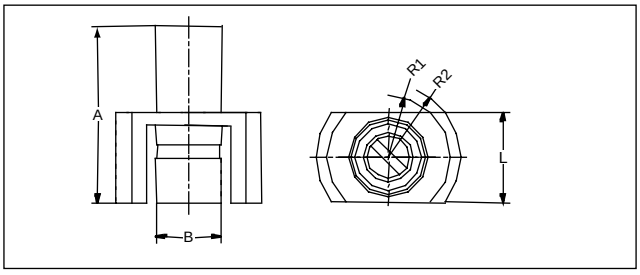


Flange: 3.6 mm diameter (.142) size 6
4.7 mm diameter (.185) sizes 7, 8 and 9

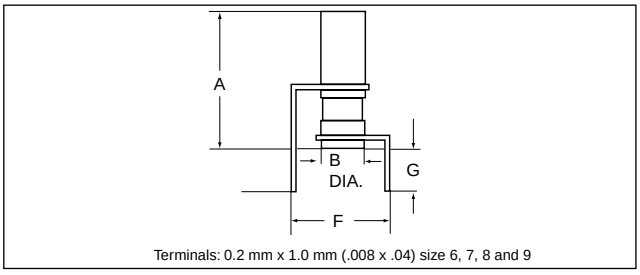
Model 7



Model 8

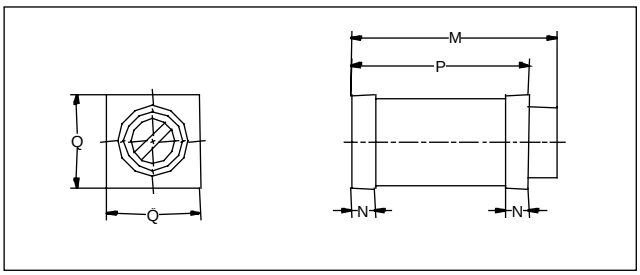


Model 9



Terminals: 0.2 mm x 1.0 mm (.008 x .04) size 6, 7, 8 and 9

SM Series



Dimensions SM Series

	M	N	P	Q
AT SM260	6.4	0.8	5.1	3.0
AT SM270	8.8	1.0	7.6	4.0
AT SM280	6.6	1.0	5.1	4.0
AT SM290	13.1	1.0	11.4	4.0