

MICROWAVE SAPPHIRE PISTONCAP® TRIMMER CAPACITORS

FEATURES

- Sapphire dielectric
- Very high Q at UHF and microwave frequencies
- Subminiature – smallest PISTONCAP® types
- Choice of 2 configurations and 6 mounting styles to suit all RF structures
- Designed to meet MIL-C-14409D
- Precision high resolution adjustment:
 - 127 threads per inch for GU series, GW series and GN_1R2_ _
 - 169 threads per inch for GN_2R5_ _ to GN_8R0_ _
- Extremely stable over temperature, frequency, voltage, etc.

APPLICATIONS

Stable oscillators, frequency multipliers, filters, tuning cavities, coupling, etc.

SPECIFICATIONS

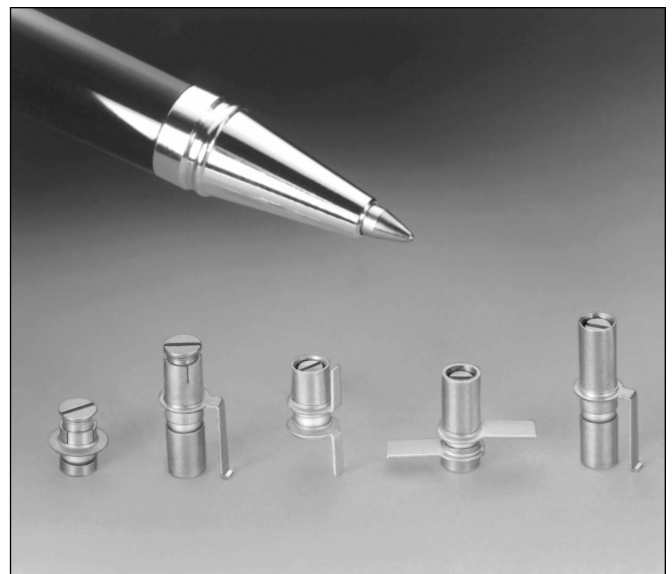
Operating temperature: -55°C to +125°C

Rated voltage: 500 VDC

Dielectric withstanding voltage: 1000 VDC

Contact resistance: 0.01 Ohms

Insulation resistance: 10⁶ Megohms min at 500 VDC



Torque: 0.1 to 1.0 oz-in (7.2 to 72 g-cm) for GU series and GN_1R2_ _
0.2 to 2.0 oz-in (14.4 to 144 g-cm) for GW and GN_2R5_ _ to GN_8R0_ _

PART NUMBERING SYSTEM

GU Sapphire Dielectric

GN
GU
GW

C Mount Type

C = PC Mount
F = Flange Mount
L = Horizontal Surface Mount
N = Leadless
R = Reverse Lead Mount
V = Vertical Surface Mount
Y = Vertical Surface Mount, Wide Lead

Capacitance Code Industry Standard, i.e.

1R2 = 1.2 pF
100 = 10 pF

00 Modification Suffix

00 = +350 ±100 ppm/°C (no marking)
01 = as above, with PTFE protective cap
50 = NPO ± 50 ppm/°C (± 75 for 8 pF models) (dimple or red ID mark on adjustment screw)
51 = as above, with PTFE protective cap



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Fig. 1

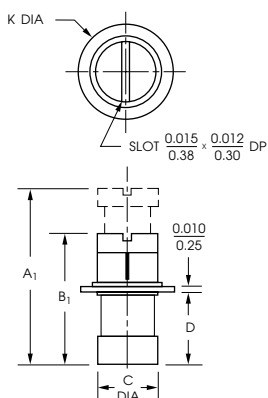
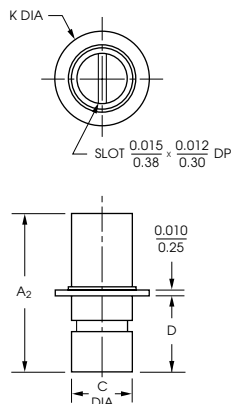
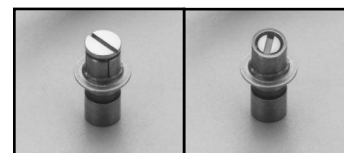


Fig. 2



Type F - Flange Mount



Capacitance (pF)		Q min (250 MHz)	A ₁	B ₁	C $\pm \frac{0.005}{0.1}$	D	K $\pm \frac{0.005}{0.1}$	A ₂	Model No. Fig. 1	Model No. Fig. 2
min	max									
0.3	1.2	4000	$\frac{0.20}{5.2}$	$\frac{0.17}{4.4}$	$\frac{0.075}{1.9}$	$\frac{0.09}{2.3}$	$\frac{0.145}{3.68}$	$\frac{0.23}{5.8}$	GUF1R200 GUF1R250	GNF1R200 GNF1R250
0.4	2.5	3000	$\frac{0.20}{5.2}$	$\frac{0.17}{4.4}$	$\frac{0.118}{3.00}$	$\frac{0.09}{2.3}$	$\frac{0.185}{4.70}$	$\frac{0.23}{5.8}$	GWF2R500 GWF2R550	GNF2R500 GNF2R550
0.6	4.5	2000	$\frac{0.33}{8.4}$	$\frac{0.25}{6.5}$	$\frac{0.118}{3.00}$	$\frac{0.15}{3.8}$	$\frac{0.185}{4.70}$	$\frac{0.31}{7.9}$	GWF4R500 GWF4R550	GNF4R500 GNF4R550
0.8	8.0	1000	$\frac{0.57}{14}$	$\frac{0.41}{11}$	$\frac{0.118}{3.00}$	$\frac{0.25}{6.4}$	$\frac{0.185}{4.70}$	$\frac{0.47}{12}$	GWF8R000 GWF8R050	GNF8R000 GNF8R050

Fig. 1

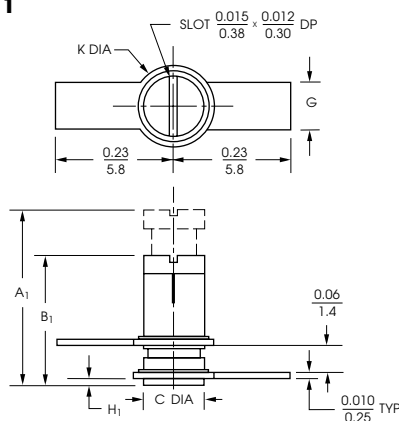
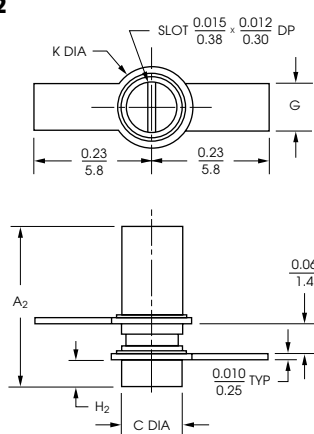
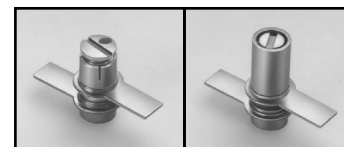


Fig. 2



Type R - Reverse Lead Mount



Capacitance (pF)		Q min (250 MHz)	A ₁	B ₁	C $\pm \frac{0.005}{0.1}$	G	H ₁	K $\pm \frac{0.005}{0.1}$	A ₂	H ₂	Model No. Fig. 1	Model No. Fig. 2
min	max											
0.3	1.2	4000	$\frac{0.20}{5.2}$	$\frac{0.17}{4.4}$	$\frac{0.075}{1.9}$	$\frac{0.04}{1.0}$	-	$\frac{0.114}{2.90}$	$\frac{0.23}{5.8}$	$\frac{0.015}{0.38}$	GUR1R200 GUR1R250	GNR1R200 GNR1R250
0.4	2.5	3000	$\frac{0.20}{5.2}$	$\frac{0.17}{4.4}$	$\frac{0.118}{3.00}$	$\frac{0.09}{2.4}$	-	$\frac{0.16}{4.0}$	$\frac{0.23}{5.8}$	$\frac{0.015}{0.38}$	GWR2R500 GWR2R550	GNR2R500 GNR2R550
0.6	4.5	2000	$\frac{0.33}{8.4}$	$\frac{0.25}{6.5}$	$\frac{0.118}{3.00}$	$\frac{0.09}{2.4}$	-	$\frac{0.16}{4.0}$	$\frac{0.31}{7.9}$	$\frac{0.050}{1.3}$	GWR4R500 GWR4R550	GNR4R500 GNR4R550
0.8	8.0	1000	$\frac{0.57}{14}$	$\frac{0.41}{11}$	$\frac{0.118}{3.00}$	$\frac{0.09}{2.4}$	$\frac{0.14}{3.5}$	$\frac{0.16}{4.0}$	$\frac{0.47}{12}$	$\frac{0.14}{3.5}$	GWR8R000 GWR8R050	GNR8R000 GNR8R050

Dimensions are in/mm. Unless otherwise specified, tolerance is $\pm 0.01/0.3$, except slot tolerance is $+0.001/0.03$, $-0.002/0.05$ and lead thickness tolerance is $\pm 0.002/0.05$.

Fig. 1

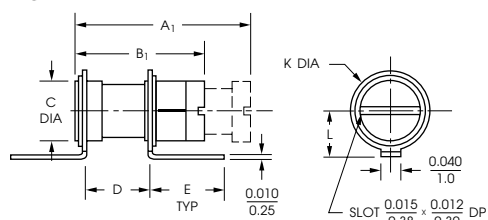
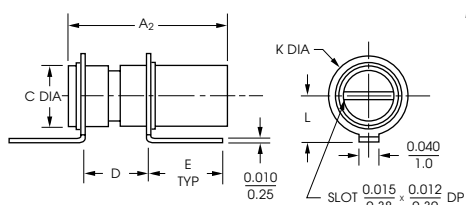
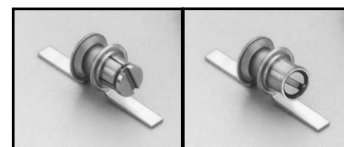


Fig. 2



Type L - Horizontal Surface Mount



Capacitance (pF)		Q min (250 MHz)	A ₁	B ₁	C $\pm \frac{0.005}{0.1}$	D	E	K $\pm \frac{0.005}{0.1}$	L	A ₂	Model No. Fig. 1	Model No. Fig.2
min	max											
0.3	1.2	4000	$\frac{0.20}{5.2}$	$\frac{0.17}{4.4}$	$\frac{0.075}{1.9}$	$\frac{0.08}{2.1}$	$\frac{0.171}{4.34}$	$\frac{0.114}{2.90}$	$\frac{0.07}{1.8}$	$\frac{0.23}{5.8}$	GUL1R200 GUL1R250	GNL1R200 GNL1R250
0.4	2.5	3000	$\frac{0.20}{5.2}$	$\frac{0.17}{4.4}$	$\frac{0.118}{3.00}$	$\frac{0.08}{2.1}$	$\frac{0.147}{3.73}$	$\frac{0.158}{4.01}$	$\frac{0.09}{2.4}$	$\frac{0.23}{5.8}$	GWL2R500 GWL2R550	GNL2R500 GNL2R550
0.6	4.5	2000	$\frac{0.33}{8.4}$	$\frac{0.25}{6.5}$	$\frac{0.118}{3.00}$	$\frac{0.13}{3.3}$	$\frac{0.147}{3.73}$	$\frac{0.158}{4.01}$	$\frac{0.09}{2.4}$	$\frac{0.31}{7.9}$	GWL4R500 GWL4R550	GNL4R500 GNL4R550
0.8	8.0	1000	$\frac{0.57}{14}$	$\frac{0.41}{11}$	$\frac{0.118}{3.00}$	$\frac{0.25}{6.4}$	$\frac{0.147}{3.73}$	$\frac{0.158}{4.01}$	$\frac{0.09}{2.4}$	$\frac{0.47}{12}$	GWL8R000 GWL8R050	GNL8R000 GNL8R050

Fig. 1

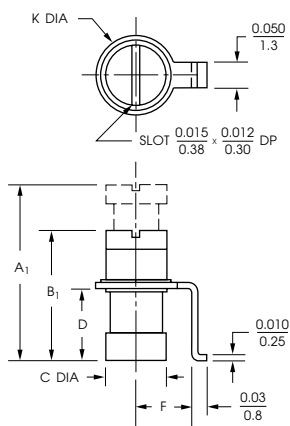
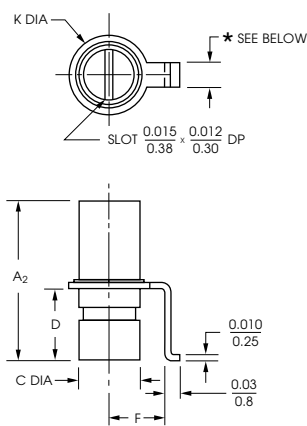


Fig. 2



Type V - Vertical Surface Mount



Capacitance (pF)		Q min (250 MHz)	A ₁	B ₁	C $\pm \frac{0.005}{0.1}$	D	F	K $\pm \frac{0.005}{0.1}$	A ₂	Model No. Fig. 1	Model No. Fig.2*
min	max										
0.3	1.2	4000	$\frac{0.20}{5.2}$	$\frac{0.17}{4.4}$	$\frac{0.075}{1.9}$	$\frac{0.09}{2.3}$	$\frac{0.08}{1.9}$	$\frac{0.114}{2.90}$	$\frac{0.23}{5.8}$	GUV1R200 GUV1R250	GNV1R200 GNV1R250
0.4	2.5	3000	$\frac{0.20}{5.2}$	$\frac{0.17}{4.4}$	$\frac{0.118}{3.00}$	$\frac{0.09}{2.3}$	$\frac{0.11}{2.8}$	$\frac{0.158}{4.01}$	$\frac{0.23}{5.8}$	GWV2R500 GWV2R550	GN_2R500 GN_2R550
0.6	4.5	2000	$\frac{0.33}{8.4}$	$\frac{0.25}{6.5}$	$\frac{0.118}{3.00}$	$\frac{0.15}{3.8}$	$\frac{0.11}{2.8}$	$\frac{0.158}{4.01}$	$\frac{0.31}{7.9}$	GWV4R500 GWV4R550	GN_4R500 GN_4R550
0.8	8.0	1000	$\frac{0.57}{14}$	$\frac{0.41}{11}$	$\frac{0.118}{3.00}$	$\frac{0.25}{6.4}$	$\frac{0.11}{2.8}$	$\frac{0.158}{4.01}$	$\frac{0.47}{12}$	GWV8R000 GWV8R050	GN_8R000 GN_8R050

* Insert letter "V" or "Y" to select lead width.

GNV series has a lead width of 0.050/1.3

GNV series has a lead width of 0.093/2.4

Dimensions are in/mm. Unless otherwise specified, tolerance is $\pm 0.01/0.3$, except slot tolerance is $+0.001/0.03$, $-0.002/0.05$ and lead thickness tolerance is $\pm 0.002/0.05$.

Fig. 1

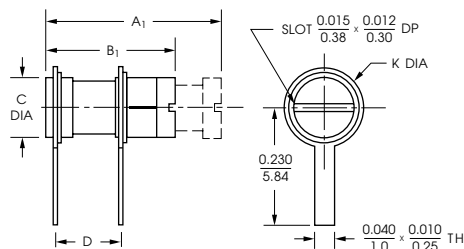
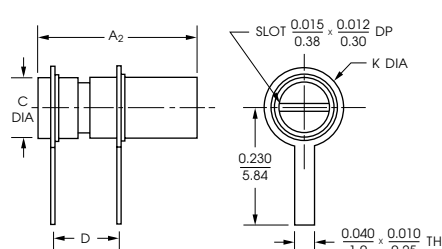


Fig. 2


Type C -
PC Mount

Capacitance (pF)		Q min (250 MHz)	A ₁	B ₁	C $\pm \frac{0.005}{0.1}$	D	K $\pm \frac{0.005}{0.1}$	A ₂	Model No. Fig. 1	Model No. Fig.2
min	max									
0.3	1.2	4000	$\frac{0.20}{5.2}$	$\frac{0.17}{4.4}$	$\frac{0.075}{1.9}$	$\frac{0.08}{2.1}$	$\frac{0.114}{2.90}$	$\frac{0.23}{5.8}$	GUC1R200	GNC1R200
									GUC1R250	GNC1R250
0.4	2.5	3000	$\frac{0.20}{5.2}$	$\frac{0.17}{4.4}$	$\frac{0.12}{3.0}$	$\frac{0.08}{2.1}$	$\frac{0.158}{4.01}$	$\frac{0.23}{5.8}$	GWC2R500	GNC2R500
									GWC2R550	GNC2R550
0.6	4.5	2000	$\frac{0.33}{8.4}$	$\frac{0.25}{6.5}$	$\frac{0.12}{3.0}$	$\frac{0.13}{3.3}$	$\frac{0.158}{4.01}$	$\frac{0.31}{7.9}$	GWC4R500	GNC4R500
									GWC4R550	GNC4R550
0.8	8.0	1000	$\frac{0.57}{14}$	$\frac{0.41}{11}$	$\frac{0.12}{3.0}$	$\frac{0.25}{6.4}$	$\frac{0.158}{4.01}$	$\frac{0.47}{12}$	GWC8R000	GNC8R000
									GWC8R050	GNC8R050

Fig. 1

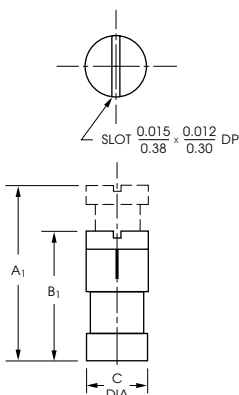
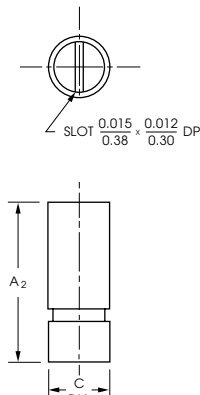


Fig. 2


Type N -
Leadless

Capacitance (pF)		Q min (250 MHz)	A ₁	B ₁	C $\pm \frac{0.005}{0.1}$	A ₂	Model No. Fig. 1	Model No. Fig.2
min	max							
0.3	1.2	4000	$\frac{0.20}{5.2}$	$\frac{0.17}{4.4}$	$\frac{0.075}{1.9}$	$\frac{0.23}{5.8}$	GUN1R200	GNN1R200
							GUN1R250	GNN1R250
0.4	2.5	3000	$\frac{0.20}{5.2}$	$\frac{0.17}{4.4}$	$\frac{0.12}{3.0}$	$\frac{0.23}{5.8}$	GWN2R500	GNN2R500
							GWN2R550	GNN2R550
0.6	4.5	2000	$\frac{0.33}{8.4}$	$\frac{0.25}{6.5}$	$\frac{0.12}{3.0}$	$\frac{0.31}{7.9}$	GWN4R500	GNN4R500
							GWN4R550	GNN4R550
0.8	8.0	1000	$\frac{0.57}{14}$	$\frac{0.41}{11}$	$\frac{0.12}{3.0}$	$\frac{0.47}{12}$	GWN8R000	GNN8R000
							GWN8R050	GNN8R050

Dimensions are in/mm. Unless otherwise specified, tolerance is $\pm 0.01/0.3$, except slot tolerance is $+0.001/0.03$, $-0.002/0.05$ and lead thickness tolerance is $\pm 0.002/0.05$.