

## MICROWAVE SAPPHIRE PISTONCAP® TRIMMER CAPACITORS

### FEATURES

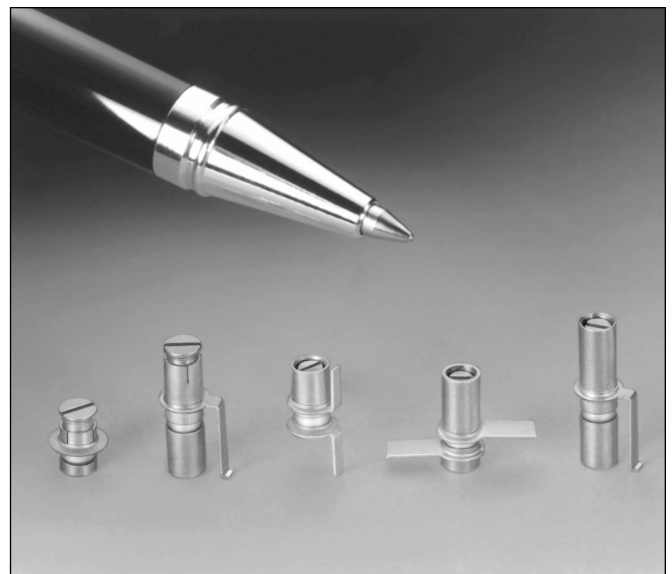
- Sapphire dielectric
- Very high Q at UHF and microwave frequencies
- Subminiature – smallest PISTONCAP® types
- Choice of 2 configurations and 6 mounting styles to suit all RF structures
- Designed to meet MIL-C-14409D
- Precision high resolution adjustment:
  - 127 threads per inch for GU series, 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: 10<sup>6</sup> 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



**Sprague-Goodman Electronics, Inc.**

1700 SHAMES DRIVE, WESTBURY, NY 11590  
 TEL: 516-334-8700 • FAX: 516-334-8771  
 E-MAIL: info@spraguegoodman.com

Fig. 1

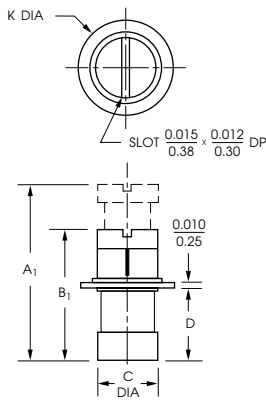
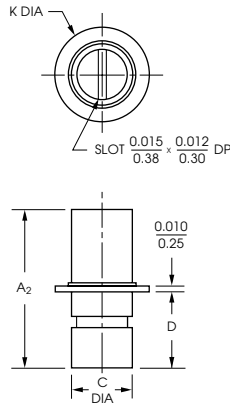


Fig. 2



**Type F -  
Flange Mount**



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

Fig. 1

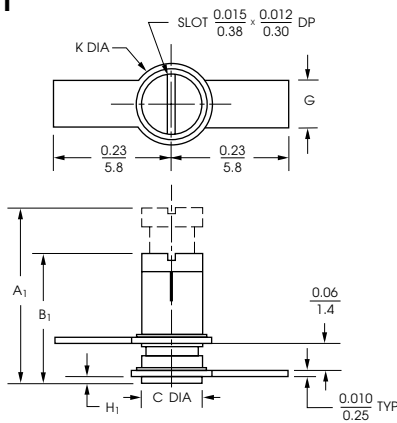
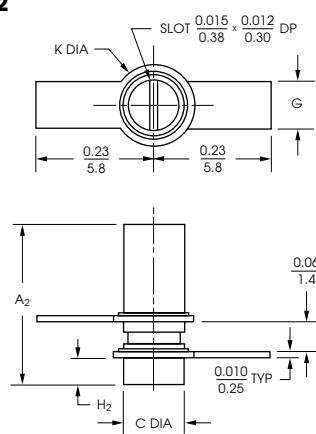
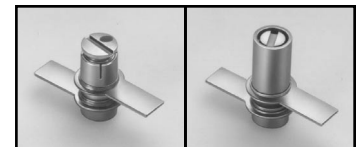


Fig. 2



**Type R -  
Reverse Lead Mount**



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

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

Fig. 1

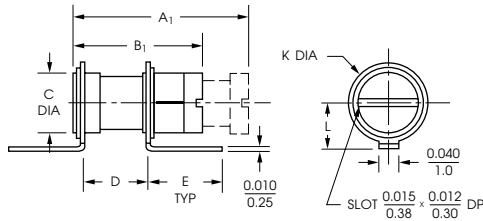
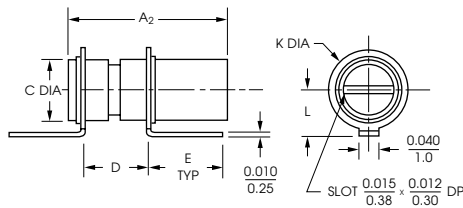
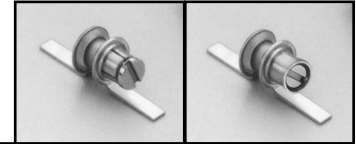


Fig. 2



**Type L -  
Horizontal Surface Mount**



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

Fig. 1

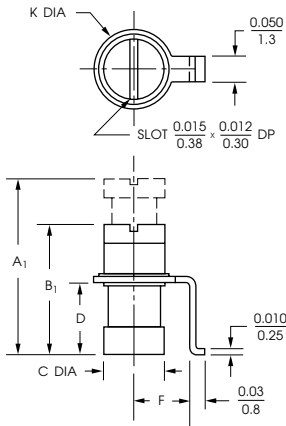
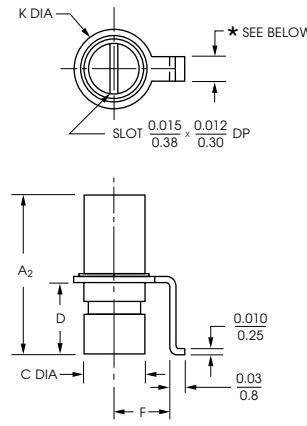


Fig. 2



**Type V -  
Vertical Surface Mount**



Capacitance (pF)		Q min (250 MHz)	A <sub>1</sub>	B <sub>1</sub>	C ±0.005 0.1	D	F	K ±0.005 0.1	A <sub>2</sub>	Model No. Fig. 1	Model No. Fig.2*
min	max										
0.3	1.2	4000	0.20 5.2	0.17 4.4	0.075 1.9	0.09 2.3	0.08 1.9	0.114 2.90	0.23 5.8	GUV1R200 GUV1R250	GNV1R200 GNV1R250
0.4	2.5	3000	0.20 5.2	0.17 4.4	0.118 3.00	0.09 2.3	0.11 2.8	0.158 4.01	0.23 5.8	GWV2R500 GWV2R550	GN_2R500 GN_2R550
0.6	4.5	2000	0.33 8.4	0.25 6.5	0.118 3.00	0.15 3.8	0.11 2.8	0.158 4.01	0.31 7.9	GWV4R500 GWV4R550	GN_4R500 GN_4R550
0.8	8.0	1000	0.57 14	0.41 11	0.118 3.00	0.25 6.4	0.11 2.8	0.158 4.01	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  
GNY series has a lead width of 0.093/2.4

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

Fig. 1

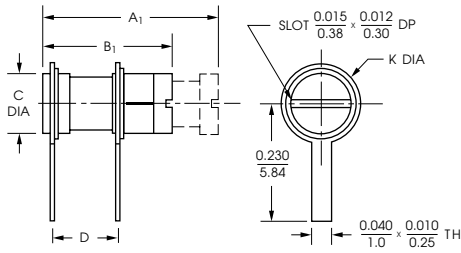
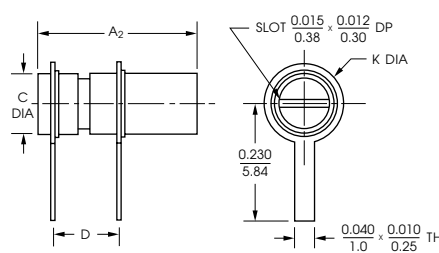
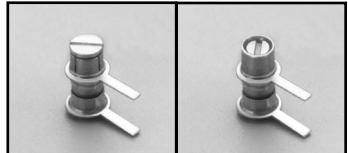


Fig. 2



Type C -  
PC Mount



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

Fig. 1

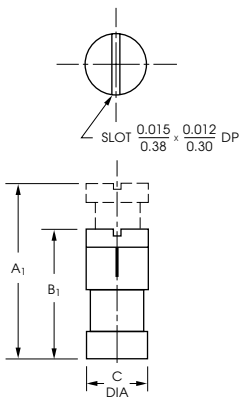
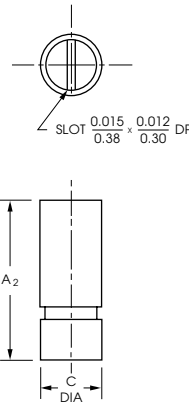
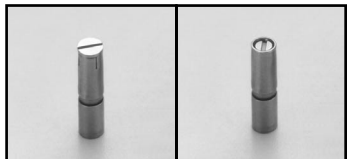


Fig. 2



Type N -  
Leadless



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

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