

MICA DIELECTRIC COMPRESSION TRIMMER CAPACITORS

FEATURES

- Very large capacitance ranges
- High Q
- Good RF current handling capability
- Many forms and mounting styles



SPECIFICATIONS

Operating Temperature Range: -35°C to +85°C

Maximum Capacitance: When set at the tight position (tight defined as 28 oz-in/2.0 kg-cm), the maximum capacitance will be no less than the value indicated in the table.

Minimum Capacitance: When adjusting screw is rotated 3 turns from tight position (2 turns for types 1, 5, and 9), the minimum capacitance will be no greater than the value indicated in the table.

| Voltage: | Working (VDC) | Dielectric Withstanding (VDC) |
|---------------|---------------|-------------------------------|
| Type 1 | 250 | 500 |
| Types 2, 3, 4 | 175 | 350 |
| Type 5 | 500 | 1000 |
| Types 6, 7, 8 | 250 | 500 |
| Type 9 | 2000 | 2700 |

Insulation Resistance: 100,000 megohms min at 25°C

Q: Minimum Q at 1 MHz per graph (for units which have nominal maximum capacitance ≤ 1000 pF).

Dissipation Factor: Maximum DF = 0.004 at 1 kHz (for units which have nominal maximum capacitance > 1000 pF).

Capacitance change with temperature (capacitor set at 1/4 to 1/2 turn from the tight position):

$$\begin{aligned} \text{Types 1, 5, 9} &= \pm (2.5\% + 0.3 \text{ pF}) \\ \text{Types 2, 3, 4, 6, 7, 8} &= \pm (1.5\% + 0.3 \text{ pF}) \end{aligned}$$

Capacitance drift with temperature (capacitor set at 1/4 to 1/2 turn from the tight position):

$$\begin{aligned} \text{Types 1, 5, 9} &= \pm (2.0\% + 0.5 \text{ pF}) \\ \text{Types 2, 3, 4, 6, 7, 8} &= \pm (1.5\% + 0.5 \text{ pF}) \end{aligned}$$

Q vs Capacitance
(1 MHz)



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PART NUMBERING SYSTEM



- MOUNTING STYLES**
- A = Bracket mount for wired assembly
 - B = Printed circuit mount, top adjust, 4 terminals
 - C = Printed circuit mount, top adjust, 2 terminals
 - D = Printed circuit mount, side adjust, 2 terminals
 - E = Panel mount, 1/4" long bushing
 - F = Panel mount, 3/16" long bushing
 - G = Panel mount, 9/32" long bushing
 - H = Panel mount, 3/16" long split bushing

TYPE

| Symbol | Size (in/mm) |
|--------|-----------------------------|
| 1 = | 0.875 x 0.938 (22.2 x 23.8) |
| 2 = | 0.375 x 0.531 (9.53 x 13.5) |
| 3 = | 0.375 x 0.750 (9.53 x 19.1) |
| 4 = | 0.625 x 0.750 (15.9 x 19.1) |
| 5 = | 0.875 x 0.938 (22.2 x 23.8) |
| 6 = | 0.375 x 0.531 (9.53 x 13.5) |
| 7 = | 0.375 x 0.750 (9.53 x 19.1) |
| 8 = | 0.625 x 0.750 (15.9 x 19.1) |
| 9 = | 0.875 x 0.938 (22.2 x 23.8) |

- MODIFICATIONS**
- 00 = Standard*
 - 01 = Mica Insulated Screw
 - 02 = Ceramic Insulated Screw
 - 03 = Guide Cup for Screw (Types 2, 3, 4, 6, 7 and 8)
 - 04 = Guide Cup and Mica Insulated Screw
- *Types 1, 5, and 9 are normally supplied with mica insulated screw (Mod 01)

Types 2 and 6

| Capacitance Range (pF) | | Model No. ¹ |
|------------------------|-----|------------------------|
| min | max | |
| 2.5 | 7 | GM_20000 |
| 4 | 20 | GM_20200 |
| 8 | 45 | GM_20300 |
| 12 | 65 | GM_20400 |
| 16 | 90 | GM_20500 |
| 25 | 115 | GM_20600 |
| 55 | 285 | GM_20700 |
| 90 | 340 | GM_20800 |

¹ Insert letter A, B, C, or D in blank space for mounting style required.
 For type 6, substitute 6 for 2 in the fourth character of the catalog number.
 Example: GMA20200 becomes GMA60200

Types 3 and 7

| Capacitance Range (pF) | | Model No. ² |
|------------------------|-----|------------------------|
| min | max | |
| 2.5 | 12 | GM_30000 |
| 3.5 | 25 | GM_30100 |
| 7.0 | 40 | GM_30200 |
| 16.0 | 100 | GM_30300 |
| 25.0 | 150 | GM_30400 |
| 40.0 | 200 | GM_30500 |
| 56.0 | 250 | GM_30600 |
| 75.0 | 300 | GM_30700 |
| 95.0 | 350 | GM_30800 |
| 115.0 | 400 | GM_30900 |
| 130.0 | 450 | GM_31000 |
| 150.0 | 500 | GM_31100 |
| 170.0 | 550 | GM_31200 |
| 200.0 | 600 | GM_31300 |
| 220.0 | 650 | GM_31400 |
| 240.0 | 700 | GM_31500 |

² Insert letter A, B, C, or D in blank space for mounting style required.
 For type 7, substitute 7 for 3 in the fourth character of the catalog number.
 Example: GMA30200 becomes GMA70200

Types 4 and 8

| Capacitance Range (pF) | | Model No. ³ |
|------------------------|------|------------------------|
| min | max | |
| 3 | 15 | GM_40000 |
| 5 | 30 | GM_40100 |
| 10 | 80 | GM_40200 |
| 20 | 180 | GM_40300 |
| 45 | 280 | GM_40400 |
| 75 | 380 | GM_40500 |
| 105 | 480 | GM_40600 |
| 140 | 580 | GM_40700 |
| 175 | 680 | GM_40800 |
| 215 | 790 | GM_40900 |
| 260 | 900 | GM_41000 |
| 300 | 1000 | GM_41100 |
| 330 | 1100 | GM_41200 |
| 360 | 1200 | GM_41300 |
| 380 | 1300 | GM_41400 |
| 420 | 1400 | GM_41500 |

³ Insert letter A, B, C, or D in blank space for mounting style required.
 For type 8, substitute 8 for 4 in the fourth character of the catalog number.
 Example: GMA40200 becomes GMA80200

SPRAGUE-GOODMAN MICA DIELECTRIC TRIMMER CAPACITORS TYPES 2, 3 and 4 (175 WVDC) TYPES 6, 7 and 8 (250 WVDC)



| Type | L | W | H | H ₁ | H ₂ | B | D | E | F | G |
|-------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| 2 & 6 | $\frac{0.531}{13.5}$ | $\frac{0.375}{9.53}$ | $\frac{0.719}{18.3}$ | $\frac{0.563}{14.3}$ | $\frac{0.719}{18.3}$ | $\frac{0.315}{8.00}$ | $\frac{0.175}{4.45}$ | $\frac{0.188}{4.76}$ | $\frac{0.563}{14.3}$ | $\frac{0.594}{15.1}$ |
| 3 & 7 | $\frac{0.750}{19.1}$ | $\frac{0.375}{9.53}$ | $\frac{0.781}{19.8}$ | $\frac{0.625}{15.9}$ | $\frac{0.625}{15.9}$ | $\frac{0.315}{8.00}$ | $\frac{0.175}{4.45}$ | $\frac{0.188}{4.76}$ | $\frac{0.813}{20.6}$ | $\frac{0.781}{19.8}$ |
| 4 & 8 | $\frac{0.750}{19.1}$ | $\frac{0.625}{15.9}$ | $\frac{0.781}{19.8}$ | $\frac{0.563}{14.3}$ | $\frac{0.969}{24.6}$ | $\frac{0.546}{13.9}$ | $\frac{0.206}{5.23}$ | $\frac{0.281}{7.14}$ | $\frac{0.813}{20.6}$ | $\frac{0.813}{20.6}$ |

Dimensions are in/mm.

SPRAGUE-GOODMAN MICA DIELECTRIC TRIMMER CAPACITORS TYPES 1, 5 and 9



| Style | L | A (Thread) | Special Feature |
|-------|----------------------|--------------|-----------------|
| E | $\frac{0.250}{6.35}$ | #12-40 UNS-2 | None |
| F | $\frac{0.188}{4.76}$ | 1/4-40 UNS-2 | None |
| G | $\frac{0.281}{7.14}$ | 1/4-40 UNS-2 | None |
| H | $\frac{0.188}{4.76}$ | 1/4-40 UNS-2 | Split Bushing |

Dimensions are in/mm.

Type 1

| Working Voltage: 250 VDC | | Model No. ⁴ |
|--------------------------|------|------------------------|
| Test Voltage: 500 VDC | | |
| Capacitance Range (pF) | | Model No. ⁴ |
| min | max | |
| 15 | 130 | GM__10201 |
| 65 | 340 | GM__10301 |
| 115 | 550 | GM__10401 |
| 190 | 760 | GM__10501 |
| 275 | 970 | GM__10601 |
| 350 | 1180 | GM__10701 |
| 450 | 1390 | GM__10801 |
| 550 | 1600 | GM__10901 |
| 650 | 1890 | GM__11001 |
| 780 | 2110 | GM__11101 |
| 880 | 2330 | GM__11201 |
| 1150 | 2605 | GM__11301 |
| 1300 | 2830 | GM__11401 |
| 1400 | 3055 | GM__11501 |

Type 5

| Working Voltage: 500 VDC | | Model No. ⁴ |
|--------------------------|------|------------------------|
| Test Voltage: 1000 VDC | | |
| Capacitance Range (pF) | | Model No. ⁴ |
| min | max | |
| 15 | 120 | GM__50201 |
| 65 | 320 | GM__50301 |
| 100 | 500 | GM__50401 |
| 180 | 690 | GM__50501 |
| 265 | 880 | GM__50601 |
| 340 | 1070 | GM__50701 |
| 425 | 1260 | GM__50801 |
| 525 | 1415 | GM__50901 |
| 615 | 1600 | GM__51001 |
| 730 | 1785 | GM__51101 |
| 800 | 1970 | GM__51201 |
| 1000 | 2155 | GM__51301 |
| 1100 | 2340 | GM__51401 |
| 1200 | 2525 | GM__51501 |

Type 9

| Working Voltage: 2000 VDC | | Model No. ⁴ |
|---------------------------|-----|------------------------|
| Test Voltage: 2700 VDC | | |
| Capacitance Range (pF) | | Model No. ⁴ |
| min | max | |
| 10 | 48 | GM__90201 |
| 45 | 105 | GM__90301 |
| 70 | 160 | GM__90401 |
| 95 | 230 | GM__90501 |
| 100 | 270 | GM__90601 |
| 170 | 350 | GM__90701 |
| 190 | 380 | GM__90801 |
| 250 | 480 | GM__90901 |

⁴ Insert letter E, F, G or H in blank space for mounting style (Style H not available in Type 9). Model numbers are shown with the "01" modification, calling for a mica insulated screw, which is the way types 1, 5, and 9 are normally supplied.

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