

# Microwave Trimmer Capacitors



## Series MTR

This microwave trimmer range provides fast accurate fine tuning for variety of R.F. and microwave applications. The variety of ten lead configurations provide for series and parallel stripline and microwave cavity applications. The MTR capacitors feature an extended life drive mechanism which gives constant torque, and confers exceptionally high resistance to shock and vibration.

### Technical Data

**Dielectric:** Sapphire

**Terminals:** Gold plated brass.

**Temperature Range:** -65°C to + 125°C

**Capacitance Range:** 0.3 - 1.2 pF  
0.4 - 2.5 pF  
0.6 - 4.5 pF  
0.8 - 8.0 pF

**Capacitance Temperature Coefficient :**

Option A : + 350 ± 75 ppm/°C

Option B : + 50 ± 50 ppm/°C

Option C : 0 ± 50 ppm/°C \*

Option D : 0 ± 75 ppm/°C

\* Not available for 8pF trimmers

- p High Self Resonance
- p Ten Lead style configuration
- p Small Size
- p Robust Construction
- p -65°C to + 125°C

**Tuning Torque:** 0.1 - 1.0 ounce inch (0.7 - 7mN.m) for 1.2 pF trimmers

0.2 - 2.0 ounce inch (1.4 - 14mN.m) for 2.5, 4.5 and 8.0pF trimmers

'Q' See Tables: 1 - 10

**D.C.Working Voltage:** 500V

**Insulation Resistance:** > 10<sup>4</sup> Megohms at 500V d.c.

**Dielectric Test Voltage:** 1,000V d.c.

**Power Rating:** 25W C.W. at 1 GHz

**Performance Curves:** See Page 20

**Self resonant frequency:** See Tables 1 - 4

For ordering information see page 20

### MTR Styles



MTR0XX



MTR1XX



MTR2XX



MTR3XX



MTR4XX



MTR5XX



MTR9XX

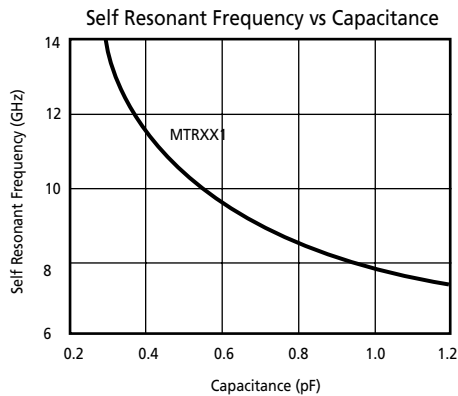
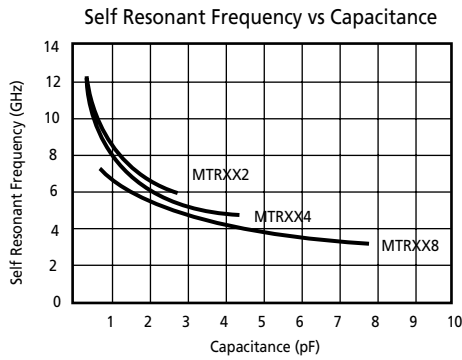
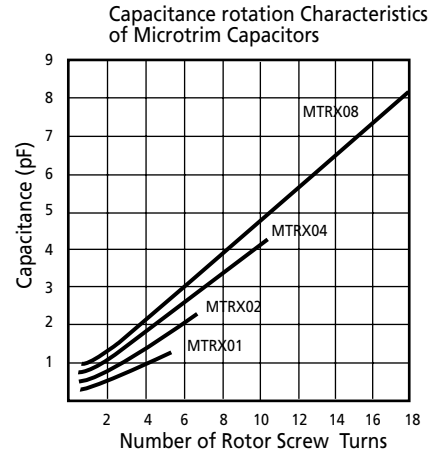
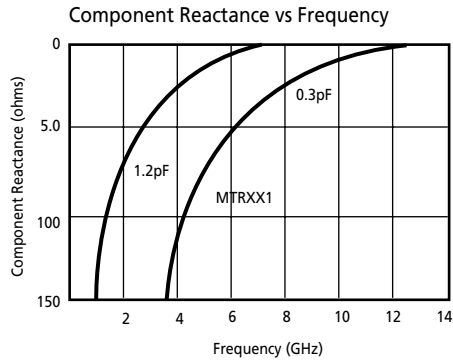
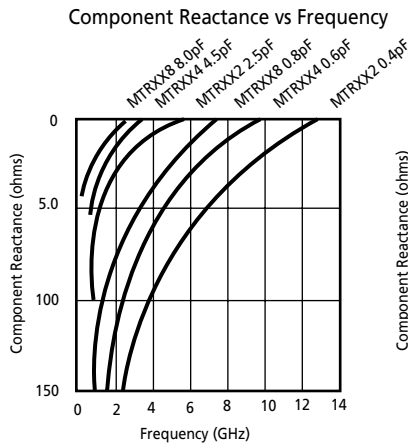
# Microwave Trimmer Capacitors



## Series MTR

### Performance Curves

Measurement in 7mm Coaxial 50 Ohm impedance test fixture in HP 8410A network analyzer system



### Ordering Information

|        |  |                  |   |   |  |
|--------|--|------------------|---|---|--|
| MTR    | <u>4</u>                                     | <u>2</u>         | <u>8</u>                                      | <u>B</u>  | <u>WL</u>  |
| Series | Lead & Mounting Configuration<br>Tables 1-10 | Style Table 1-10 | Max. Capacitance to nearest pF<br>Tables 1-10 | Temperature coefficient<br>(see Technical Data) | Specifies option of non- standard lead size on types MTR1XX and MTR2XX of 0.01 x 0.09 (0.25 x 2.4) |



Lead configuration and dimensions

Table-1

Tuning capacitance range: 0.3-1.2pF

Tuning Torque: 0.1-1.0 ounce inch (0.7-7 mN. m)

Q-factor @250MHz min: 5000

Self resonant frequency: 13GHz

| Part designation | Outline drawing and dimensions in inches (mm) | Part designation | Outline drawing and dimensions in inches (mm) |
|------------------|---|------------------|---|
| MTR021           |   | MTR421           |   |
| MTR121           |   | MTR521           |   |
| MTR221           |   | MTR921           |   |
| MTR321           |   |                  |   |

NOTE: 1) Tolerance on stator diameters 0.075 (1.9) are  $\pm 0.004$  ( $\pm 0.1$ ) all other tolerances  $\pm 0.016$  ( $\pm 0.4$ )

2) Dimensions of screwdriver slot (tuning): 0.012x0.045 (0.3x1.14)

3) All dimensions are in inches (mm)

For Ordering Information See page 20



# Series MTR-X22

**Table-2**

Tuning capacitance range: 0.4-2.5pF

Tuning Torque: 0.2-2.0 ounce inch (1.4-14 mN. m)

Q-factor @250MHz min: 4000

Self resonant frequency: 11GHz

| Part designation | Outline drawing and dimensions in inches (mm) | Part designation | Outline drawing and dimensions in inches (mm) |
|------------------|---|------------------|---|
| MTR022           |   | MTR422           |   |
| MTR122           |   | MTR522           |   |
| MTR222           |   | MTR922           |   |
| MTR322           |   |                  |   |

**NOTE:** 1) Tolerance on stator diameters 0.118 (3.0) are  $\pm 0.004$  ( $\pm 0.1$ ) all other tolerances  $\pm 0.016$  ( $\pm 0.4$ )  
 2) Dimensions of screwdriver slot (tuning): 0.016x0.080 (0.4x2.0)  
 3) All dimensions are in inches (mm)



Table-3

Tuning capacitance range: 0.6-4.5pF

Tuning Torque: 0.2-2.0 ounce inch (1.4-14mN.m)

Q-factor @250MHz min: 3000

Self resonant frequency: 8GHz

| Part designation | Outline drawing and dimensions in inches (mm) | Part designation | Outline drawing and dimensions in inches (mm) |
|------------------|---|------------------|---|
| MTR024           |   | MTR424           |   |
| MTR124           |   | MTR524           |   |
| MTR224           |   | MTR924           |   |
| MTR324           |   |                  |   |

NOTE: 1) Tolerance on stator diameters 0.118 (3.0) are  $\pm 0.004$  ( $\pm 0.1$ ) all other tolerances  $\pm 0.016$  ( $\pm 0.4$ )

2) Dimensions of screwdriver slot (tuning): 0.016x0.080 (0.4x2.0)

3) All dimensions are in inches (mm)



Series MTR-X28

Table-4

Tuning capacitance range: 0.8-8.0pF

Tuning Torque: 0.2-2.0 ounce inch (1.4-14 mN. m)

Q factor at 250 MHz min: 1500

Self resonant frequency: 5GHz

| Part designation | Outline drawing and dimensions in inches (mm) | Part designation | Outline drawing and dimensions in inches (mm) |
|------------------|---|------------------|---|
| MTR028           |   | MTR428           |   |
| MTR128           |   | MTR528           |   |
| MTR228           |   | MTR928           |   |
| MTR328           |   |                  |   |

NOTE: 1) Tolerance on stator diameters 0.118 (3.0) are  $\pm 0.004$  ( $\pm 0.1$ ) all other tolerances  $\pm 0.016$  ( $\pm 0.4$ )  
 2) Dimensions of screwdriver slot (tuning): 0.016x0.080 (0.4x2.0)  
 3) All dimensions are in inches (mm)

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