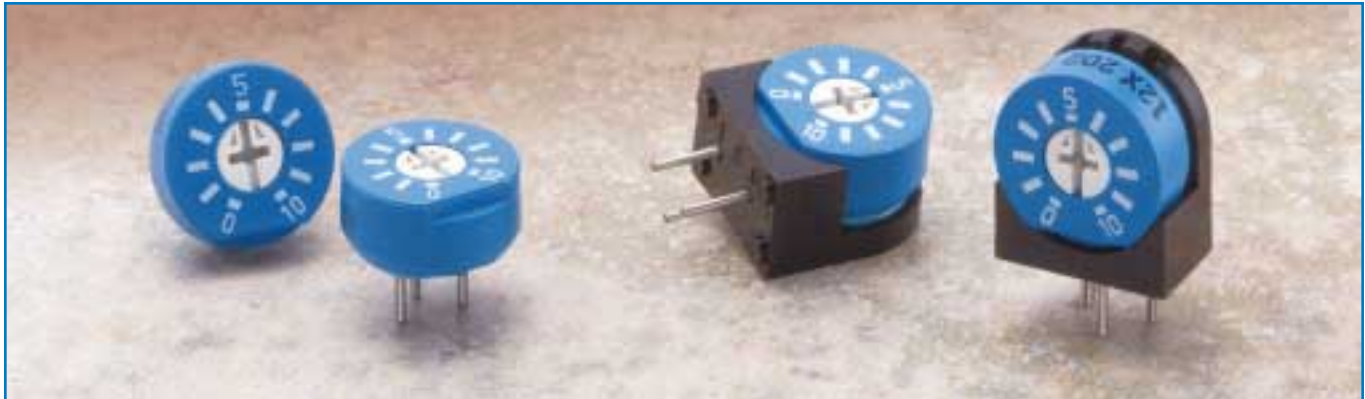


## 1/2" Round, Single-Turn, Through-Hole Sealed Cermet Trimmers



### Features

- 1/2" round, single-turn, through-hole, sealed cermet trimmers
- Dial markings for quick adjustment
- 3 standard models, top and side adjust
- Cross-slot adjustment flush with housing
- PC board stand-offs
- 1.0 watt power rating
- Low noise and low TC
- Wide temperature range of  $-55^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$
- Meets UL 94V-0 flammability requirements
- Sealed to withstand wave soldering and immersion cleaning processes

### Specifications

#### Electrical

<b>Standard Resistance Range</b>	10 $\Omega$ to 1M $\Omega$ (standard 1, 2 & 5 sequence)
<b>Resistance Tolerance</b>	$\pm 10\%$ and $\pm 20\%$
<b>End Resistance</b>	1% or 3 $\Omega$ , whichever is greater
<b>Resistance Taper</b>	Linear
<b>Peak Noise (C.R.V.)</b>	1% or 1 $\Omega$ , whichever is greater
<b>Power Rating</b>	1.0 watt at $+70^{\circ}\text{C}$ , 0 watt at $+125^{\circ}\text{C}$
<b>Maximum Input Voltage</b>	300VDC or power rating, whichever is smaller
<b>Temperature Coefficient</b>	$\pm 100\text{ppm}/^{\circ}\text{C}$ , 200 $\Omega$ to 500k $\Omega$ $\pm 250\text{ppm}/^{\circ}\text{C}$ , other values
<b>Insulation Resistance</b>	1,000M $\Omega$ minimum at 500VDC
<b>Dielectric Strength</b>	900VAC, 1 minute
<b>Adjustment Travel</b>	$270^{\circ} \pm 10^{\circ}$

#### Mechanical

<b>Mechanical Travel</b>	$300^{\circ} \pm 10^{\circ}$
<b>Shaft Torque</b>	350 gf $\cdot$ cm (4.85 oz $\cdot$ in) max.
<b>Stop Strength</b>	2 kgf $\cdot$ cm (27.73 oz $\cdot$ in) min.
<b>Flammability of Plastic Materials</b>	Meets UL 94V-0
<b>Nominal Weight</b>	1.5g (P); 2.4g (S, X)
<b>Marking</b>	Resistance code, date code, model type, terminal identification (side adjust only)

#### Environmental

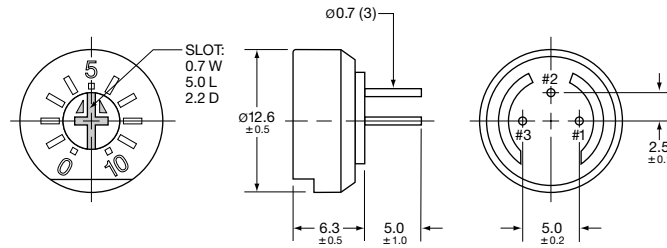
<b>Temperature Range</b>	$-55^{\circ}\text{C}$ to $+125^{\circ}\text{C}$
<b>Low Temperature Exposure</b>	$-55^{\circ}\text{C}$ , 2 hours $\Delta\text{T/R} \leq \pm 1\%$
<b>High Temperature Exposure</b>	$+125^{\circ}\text{C}$ , 250 hours $\Delta\text{T/R} \leq \pm 2\%$ , S.S. $\leq \pm 1\%$
<b>Load Life</b>	$+70^{\circ}\text{C}$ , 1.0 watt, 1,000 hours $\Delta\text{T/R} \leq \pm 3\%$ , S.S. $\leq \pm 1\%$
<b>Thermal Shock</b>	$-55^{\circ}\text{C}$ , $+125^{\circ}\text{C}$ , 30 minutes each, 5 cycles $\Delta\text{T/R} \leq \pm 1\%$ , S.S. $\leq \pm 1\%$
<b>Shock</b>	50G, 6ms, 6 directions, 3 times each $\Delta\text{T/R} \leq \pm 2\%$ , S.S. $\leq \pm 1\%$
<b>Vibration</b>	10-2,000Hz, 1.5mm amplitude, 20G, 12 hours $\Delta\text{T/R} \leq \pm 1\%$ , S.S. $\leq \pm 1\%$
<b>Humidity</b>	$+40^{\circ}\text{C}$ , 90-95% RH, 1.0 watt, 500 hours $\Delta\text{T/R} \leq \pm 3\%$ , S.S. $\leq \pm 1\%$
<b>Moisture Resistance</b>	$-10^{\circ}\text{C}$ to $+65^{\circ}\text{C}$ , 80-98% RH, 1.0 watt, 10 cycles, 240 hours $\Delta\text{T/R} \leq \pm 3\%$
<b>Soldering Heat Resistance</b>	$350^{\circ}\text{C}$ , 3 seconds $\Delta\text{T/R} \leq \pm 1\%$
<b>Seal Test</b>	$+85^{\circ}\text{C}$ , hot water for 1 minute
<b>Rotational Life</b>	100 cycles without discontinuity $\Delta\text{T/R} \leq \pm 2\%$

$\Delta\text{T/R}$  = Total Resistance Change; S.S. = Setting Stability (voltage ratio)

**G12P**

**P Terminal Style, Cross-Slot, Top Adjust**

Unit: mm

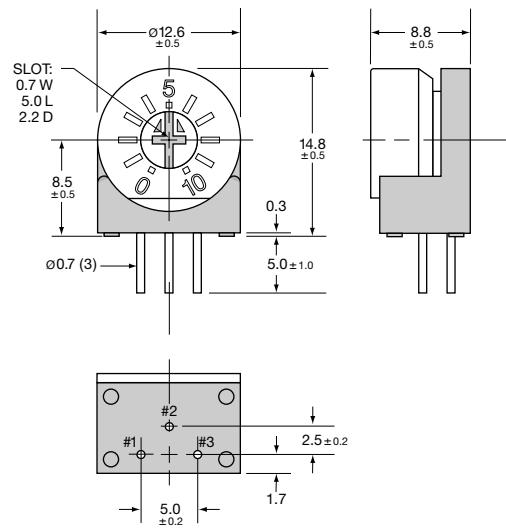
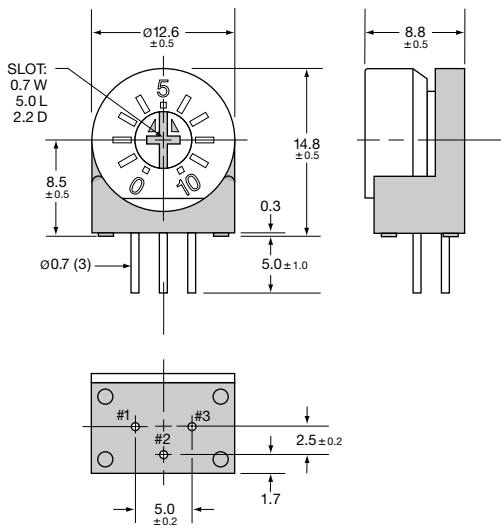


**G12S**

**S Terminal Style, Cross-Slot, Side Adjust**

**G12X**

**X Terminal Style, Cross-Slot, Side Adjust**

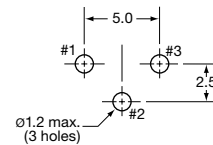
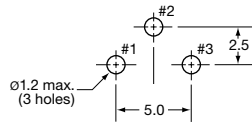


**Recommended PCB Layouts**

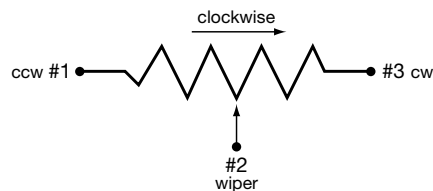
**P & S Pin-Out**

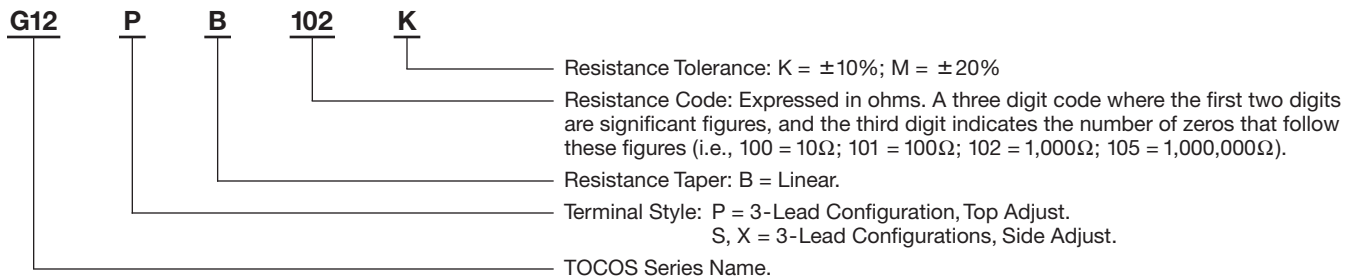
**X Pin-Out**

Unit: mm



**Electrical Schematic**






**Part Numbers**

Nominal Resistance		Catalog No. Bulk		Potentiometer Styles
Value ( $\Omega$ )	Code	Resistance Tolerance $\pm 10\%$	Resistance Tolerance $\pm 20\%$	

**G12P Through-Hole, P Terminal Style, Cross-Slot, Top Adjust**

Value ( $\Omega$ )	Code	Resistance Tolerance $\pm 10\%$	Resistance Tolerance $\pm 20\%$	 <b>G12P</b>
10	100	G12P B 100 K	G12P B 100 M	
20	200	G12P B 200 K	G12P B 200 M	
50	500	G12P B 500 K	G12P B 500 M	
100	101	G12P B 101 K	G12P B 101 M	
200	201	G12P B 201 K	G12P B 201 M	
500	501	G12P B 501 K	G12P B 501 M	
1,000	102	G12P B 102 K	G12P B 102 M	
2,000	202	G12P B 202 K	G12P B 202 M	
5,000	502	G12P B 502 K	G12P B 502 M	
10,000	103	G12P B 103 K	G12P B 103 M	
20,000	203	G12P B 203 K	G12P B 203 M	
50,000	503	G12P B 503 K	G12P B 503 M	
100,000	104	G12P B 104 K	G12P B 104 M	
200,000	204	G12P B 204 K	G12P B 204 M	
500,000	504	G12P B 504 K	G12P B 504 M	
1,000,000	105	G12P B 105 K	G12P B 105 M	

**G12S Through-Hole, S Terminal Style, Cross-Slot, Side Adjust**

Value ( $\Omega$ )	Code	Resistance Tolerance $\pm 10\%$	Resistance Tolerance $\pm 20\%$	 <b>G12S</b>
10	100	G12S B 100 K	G12S B 100 M	
20	200	G12S B 200 K	G12S B 200 M	
50	500	G12S B 500 K	G12S B 500 M	
100	101	G12S B 101 K	G12S B 101 M	
200	201	G12S B 201 K	G12S B 201 M	
500	501	G12S B 501 K	G12S B 501 M	
1,000	102	G12S B 102 K	G12S B 102 M	
2,000	202	G12S B 202 K	G12S B 202 M	
5,000	502	G12S B 502 K	G12S B 502 M	
10,000	103	G12S B 103 K	G12S B 103 M	
20,000	203	G12S B 203 K	G12S B 203 M	
50,000	503	G12S B 503 K	G12S B 503 M	
100,000	104	G12S B 104 K	G12S B 104 M	
200,000	204	G12S B 204 K	G12S B 204 M	
500,000	504	G12S B 504 K	G12S B 504 M	
1,000,000	105	G12S B 105 K	G12S B 105 M	

## G12 Series

## Part Numbers

Nominal Resistance		Catalog No. Bulk		Potentiometer Styles
Value ( $\Omega$ )	Code	Resistance Tolerance $\pm 10\%$	Resistance Tolerance $\pm 20\%$	

### G12X Through-Hole, X Terminal Style, Cross-Slot, Side Adjust

10	100	G12X B 100 K	G12X B 100 M
20	200	G12X B 200 K	G12X B 200 M
50	500	G12X B 500 K	G12X B 500 M
100	101	G12X B 101 K	G12X B 101 M
200	201	G12X B 201 K	G12X B 201 M
500	501	G12X B 501 K	G12X B 501 M
1,000	102	G12X B 102 K	G12X B 102 M
2,000	202	G12X B 202 K	G12X B 202 M
5,000	502	G12X B 502 K	G12X B 502 M
10,000	103	G12X B 103 K	G12X B 103 M
20,000	203	G12X B 203 K	G12X B 203 M
50,000	503	G12X B 503 K	G12X B 503 M
100,000	104	G12X B 104 K	G12X B 104 M
200,000	204	G12X B 204 K	G12X B 204 M
500,000	504	G12X B 504 K	G12X B 504 M
1,000,000	105	G12X B 105 K	G12X B 105 M



**G12X**

## Packaging

<b>Standard:</b>	<b>Bulk Packaging</b>	<b>Quantity</b>
		10 pieces per vinyl bag. 200 pieces per box.

## Soldering and Cleaning Guidelines

For soldering, cleaning and other information, refer to Guidelines and Precautions for Using Potentiometers.