

G43 Series

TOCOS[®]
 POTENTIOMETERS

4mm Surface Mount, Single-Turn, Sealed Cermet Trimmers

**RoHS Compliant
IMPROVED DESIGN
Pb-Free and Cd-Free**



Features

- 4mm square SMD, single-turn, sealed cermet trimmers
- Available in J-hook and gull-wing terminal configurations
- Meets EIA, EIAJ, IPC, VECI standard SMD trimmer designs
- Pb-free and Cd-free construction
- RoHS compliant
- Gold-plated leads provide high conductivity, low contact resistance, high corrosion resistance and good solderability
- Top, side or bottom cross-slot adjustment
- High setting accuracy, zero backlash
- Tape and reel packaging

Specifications

Electrical

Standard Resistance Range 10Ω to 2MΩ
 (standard 1, 2 & 5 sequence)

Resistance Tolerance ±20% standard

End Resistance 1% or 3Ω, whichever is greater

Resistance Taper B = Linear

Peak Noise (C.R.V.) 2% or 3Ω, whichever is greater

Power Rating 0.25 watt at +70°C; 0 watt at +125°C

Maximum Input Voltage 200VDC or power rating,
 whichever is smaller

Temperature Coefficient ±100ppm/°C, 200Ω to 1MΩ
 ±250ppm/°C, other values

Insulation Resistance 100MΩ minimum at 500VDC

Dielectric Strength 500VAC, 1 minute

Adjustment Travel 210° ±10°

Mechanical

Mechanical Travel 240° ±10°

Shaft Torque 150 gf·cm (2.08 oz·in) max.

Stop Strength 300 gf·cm (4.16 oz·in) min.

Flammability of Plastic Materials Meets UL 94V-0

Nominal Weight 0.14g (A,B,D,E)
 0.16g (BF); 0.24g (SA)

Marking Resistance code, date code

**For through-hole models of the G43 series,
 refer to the G43C Series.**

Environmental

Temperature Range -55°C to +125°C

Low Temperature Exposure -55°C, 0.25 watt,
 45 minutes
 $\Delta T/R \leq \pm 2\%$, S.S. $\leq \pm 2\%$

High Temperature Exposure +125°C, 250 hours
 $\Delta T/R \leq \pm 2\%$, S.S. $\leq \pm 2\%$

Load Life +70°C, 0.25 watt, 1,000 hours
 $\Delta T/R \leq \pm 3\%$, S.S. $\leq \pm 2\%$

Thermal Shock -55°C, +125°C,
 30 minutes each, 5 cycles
 $\Delta T/R \leq \pm 2\%$, S.S. $\leq \pm 1\%$

Shock 100G, 6ms, 6 directions, 3 times each
 $\Delta T/R \leq \pm 1\%$, S.S. $\leq \pm 1\%$

Vibration 10-2,000Hz, 1.5mm amplitude,
 20G, 12 hours
 $\Delta T/R \leq \pm 1\%$, S.S. $\leq \pm 1\%$

Humidity +40°C, 90-95% RH,
 0.25 watt, 500 hours
 $\Delta T/R \leq \pm 3\%$, S.S. $\leq \pm 2\%$

Moisture Resistance -10°C to +65°C, 80-98% RH,
 0.25 watt, 10 cycles, 240 hours
 $\Delta T/R \leq \pm 3\%$

Soldering Heat Resistance 260°C, 10 seconds
 $\Delta T/R \leq \pm 1\%$

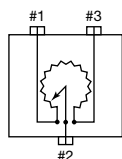
Seal Test +85°C, hot water for 1 minute

Rotational Life 100 cycles without discontinuity, no load
 $\Delta T/R \leq \pm 5\%$

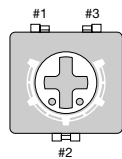
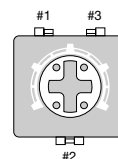
$\Delta T/R$ = Total Resistance Change; S.S. = Setting Stability (voltage ratio)

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G43 Series**Standard and Reverse Markings****All A, B, D & E Models**
Position of Rotor Inside

Position of the rotor inside is the same for both types of markings.

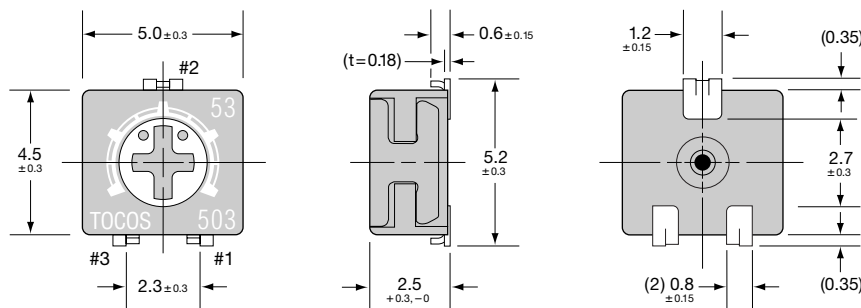
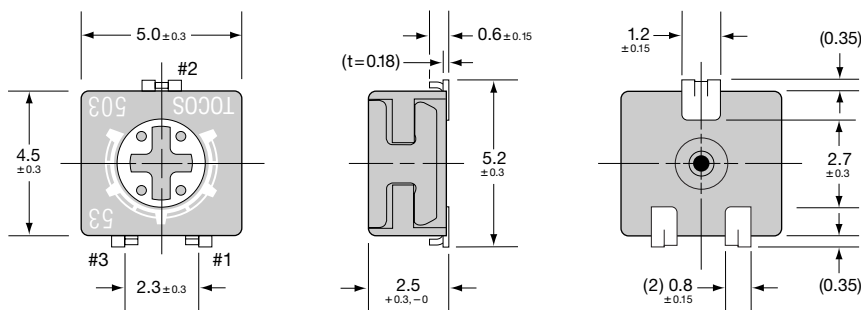
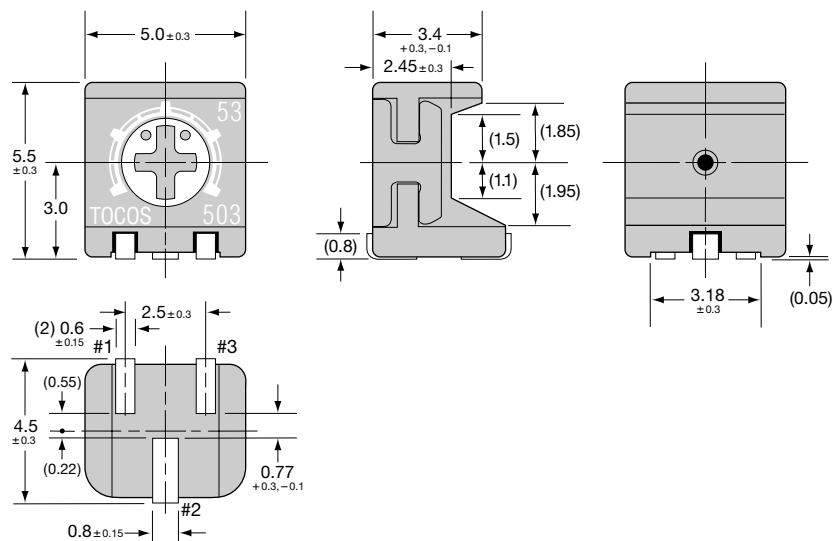
Standard Markings
Outside Positions**G43A & G43B****Reverse Markings**
Outside Positions**G43D & G43E**

The D and E models are the same construction as the A and B models. The only difference is the reversed outside markings.

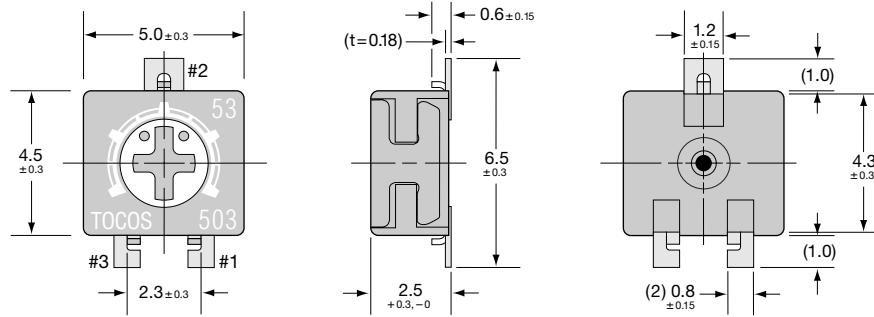
Dimensions**G43A J-Hook, Top Adjust**

Unit: mm

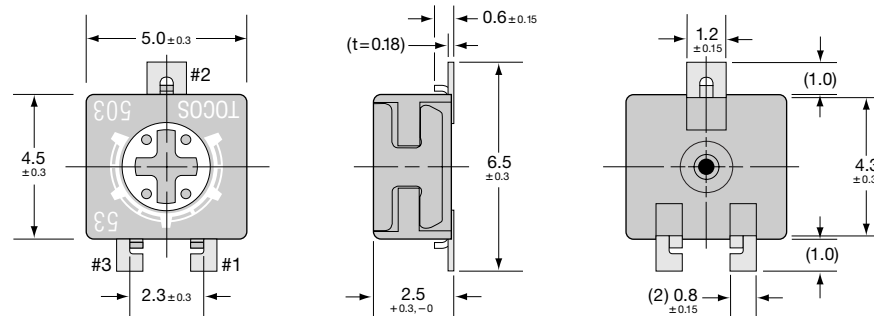
All G43 models:
Cross-Slot accepts
both Philips and
single blade
adjustment tools.

**G43D Reverse Markings, J-Hook, Top Adjust****G43SA J-Hook, Side Adjust**

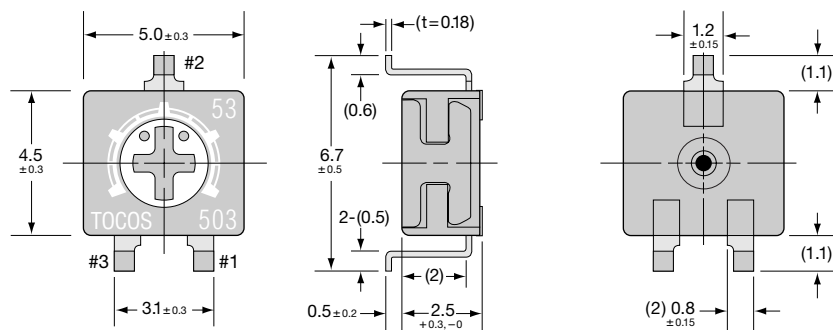
Unit: mm



G43E Reverse Markings, Gull-Wing, Top Adjust



G43BF Gull-Wing, Bottom Adjust

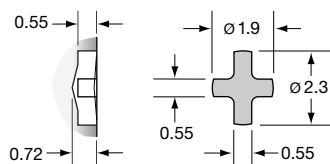


Cross-Slot Dimensions

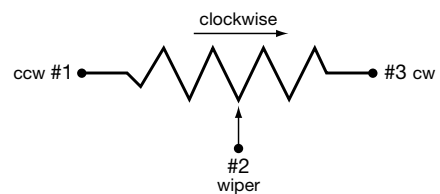
Electrical Schematic

All G43 Models

Unit: mm

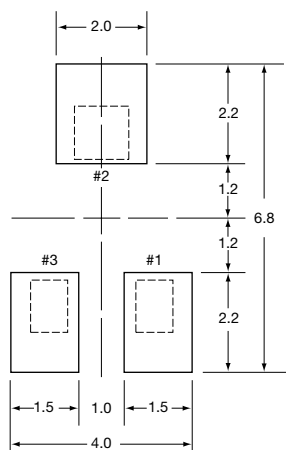
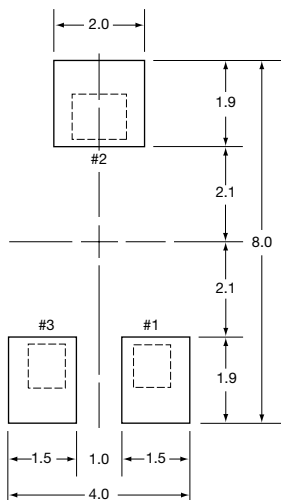
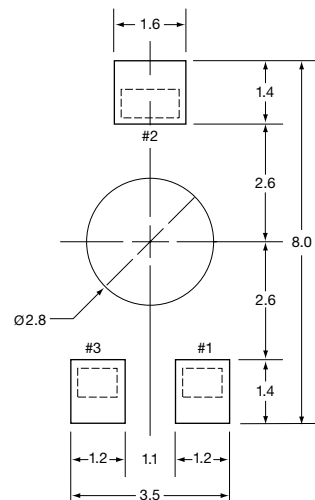
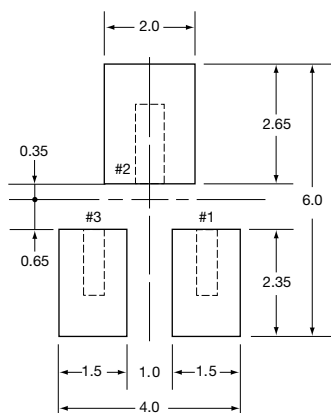
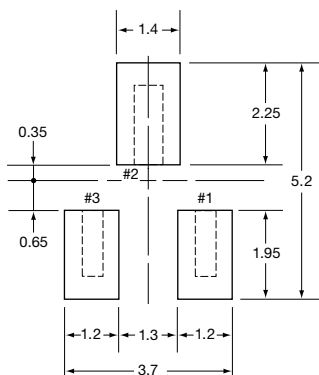
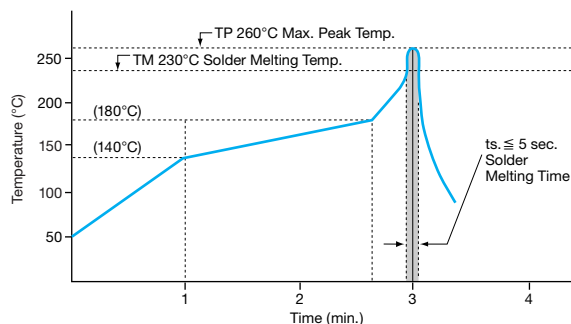
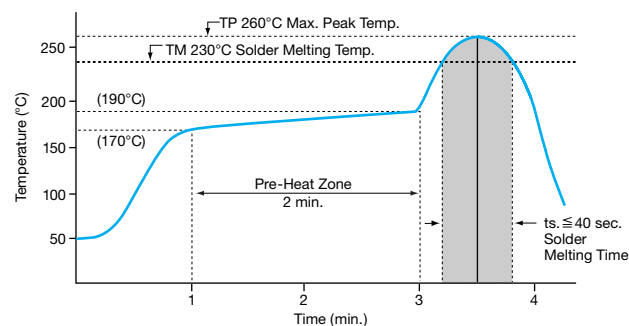


Cross-Slot accepts both Philips and single blade adjustment tools.



G43 Series**Soldering Guidelines****Recommended Land Patterns**

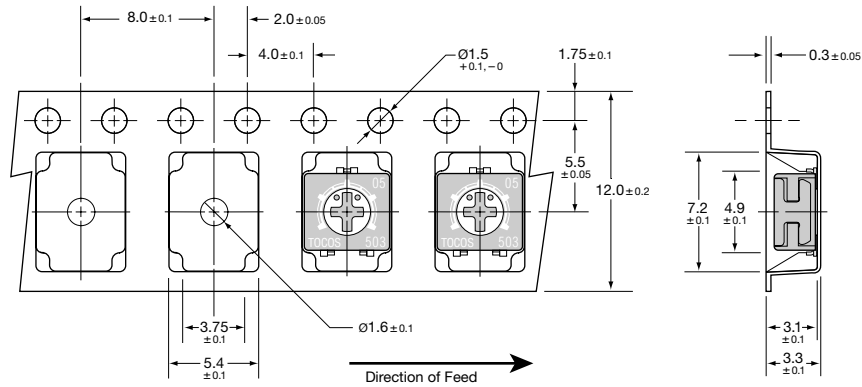
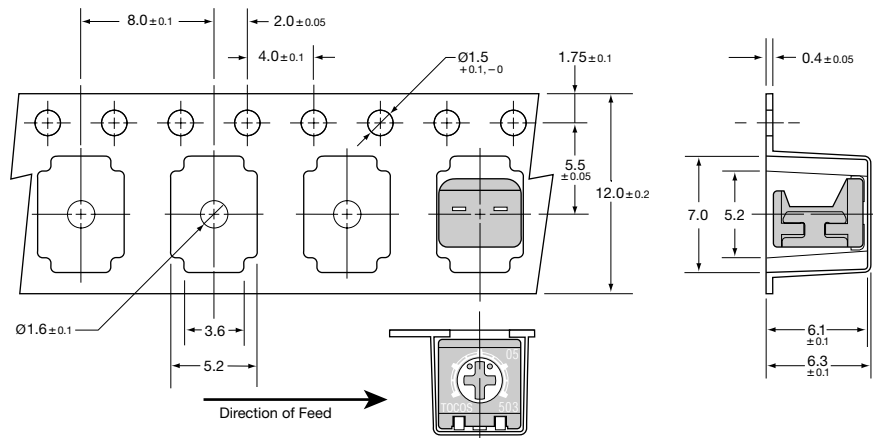
Unit: mm

Flow or Reflow Soldering Methods**G43A, G43D****G43B, G43E****G43BF****Flow Soldering Method****G43SA****Reflow Soldering Method****G43SA****Recommended Soldering Profiles****Flow Soldering Profile****Reflow Soldering Profile**

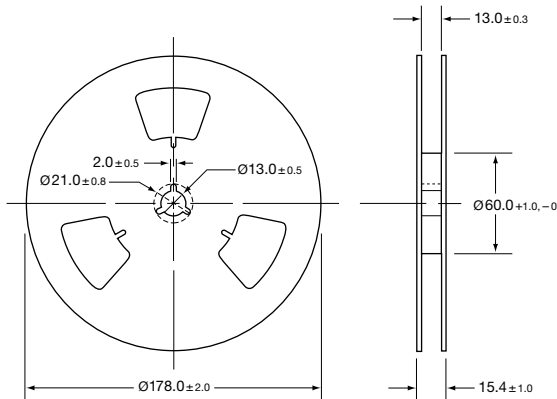
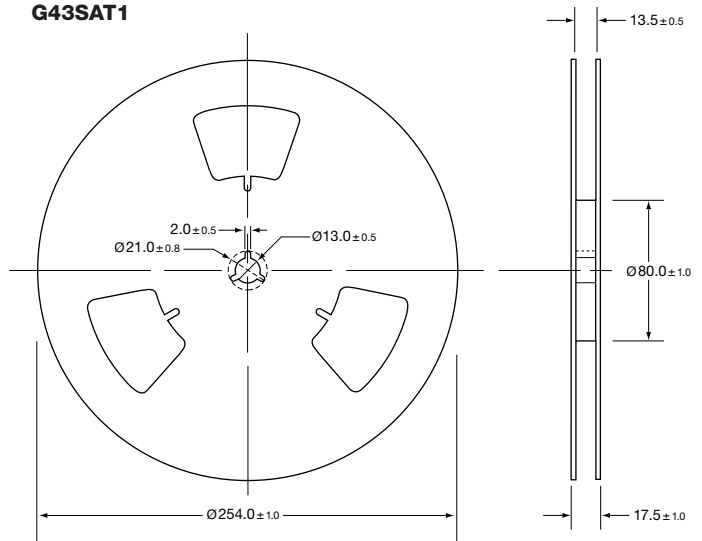
G43 Series**Tape & Reel Specifications****Embossed Tape Dimensions**

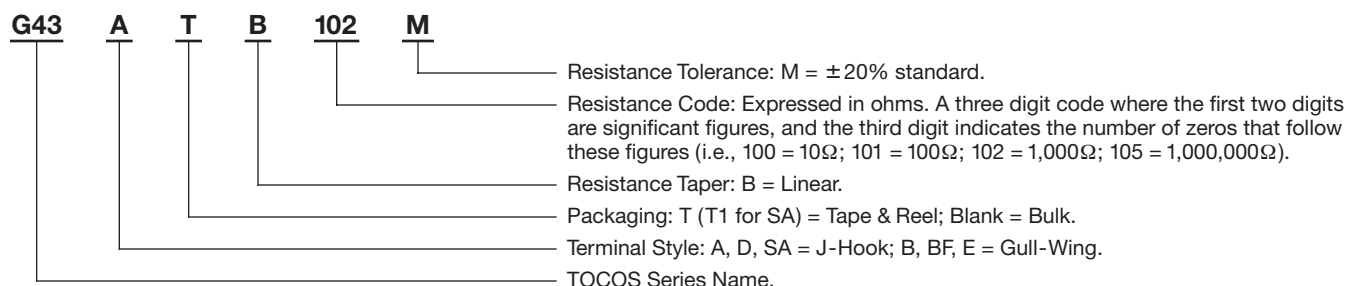
Conforms to EIA-481, JIS-C-0806 and EIAJ-RC-1009B

Unit: mm

G43AT, G43DT, G43BT, G43ET**G43SAT1****Reel Dimensions**

Conforms to EIA-481, JIS-C-0806 and EIAJ-RC-1009B

G43AT, G43DT, G43BT, G43ET**500 Pieces Per 7" Reel****G43SAT1****750 Pieces Per 10" Reel**

G43 Series**Part Numbering System****Part Numbers**

Nominal Resistance		Resistance Tolerance $\pm 20\%$		Potentiometer Styles
Value (Ω)	Code	Catalog No. Tape & Reel	Catalog No. Bulk	

G43A J-Hook, Top Adjust

10	100	G43AT B 100 M	G43A B 100 M	
20	200	G43AT B 200 M	G43A B 200 M	
50	500	G43AT B 500 M	G43A B 500 M	
100	101	G43AT B 101 M	G43A B 101 M	
200	201	G43AT B 201 M	G43A B 201 M	
500	501	G43AT B 501 M	G43A B 501 M	
1,000	102	G43AT B 102 M	G43A B 102 M	
2,000	202	G43AT B 202 M	G43A B 202 M	
5,000	502	G43AT B 502 M	G43A B 502 M	
10,000	103	G43AT B 103 M	G43A B 103 M	
20,000	203	G43AT B 203 M	G43A B 203 M	
50,000	503	G43AT B 503 M	G43A B 503 M	
100,000	104	G43AT B 104 M	G43A B 104 M	
200,000	204	G43AT B 204 M	G43A B 204 M	
500,000	504	G43AT B 504 M	G43A B 504 M	
1,000,000	105	G43AT B 105 M	G43A B 105 M	
2,000,000	205	G43AT B 205 M	G43A B 205 M	

G43A**G43D Reverse Markings, J-Hook, Top Adjust**

10	100	G43DT B 100 M	G43D B 100 M	
20	200	G43DT B 200 M	G43D B 200 M	
50	500	G43DT B 500 M	G43D B 500 M	
100	101	G43DT B 101 M	G43D B 101 M	
200	201	G43DT B 201 M	G43D B 201 M	
500	501	G43DT B 501 M	G43D B 501 M	
1,000	102	G43DT B 102 M	G43D B 102 M	
2,000	202	G43DT B 202 M	G43D B 202 M	
5,000	502	G43DT B 502 M	G43D B 502 M	
10,000	103	G43DT B 103 M	G43D B 103 M	
20,000	203	G43DT B 203 M	G43D B 203 M	
50,000	503	G43DT B 503 M	G43D B 503 M	
100,000	104	G43DT B 104 M	G43D B 104 M	
200,000	204	G43DT B 204 M	G43D B 204 M	
500,000	504	G43DT B 504 M	G43D B 504 M	
1,000,000	105	G43DT B 105 M	G43D B 105 M	
2,000,000	205	G43DT B 205 M	G43D B 205 M	

G43D

G43 Series**Part Numbers**

Nominal Resistance		Resistance Tolerance $\pm 20\%$		Potentiometer Styles
Value (Ω)	Code	Catalog No. Tape & Reel	Catalog No. Bulk	

G43B Gull-Wing, Top Adjust

10	100	G43BT B 100 M	G43B B 100 M	
20	200	G43BT B 200 M	G43B B 200 M	
50	500	G43BT B 500 M	G43B B 500 M	
100	101	G43BT B 101 M	G43B B 101 M	
200	201	G43BT B 201 M	G43B B 201 M	
500	501	G43BT B 501 M	G43B B 501 M	
1,000	102	G43BT B 102 M	G43B B 102 M	
2,000	202	G43BT B 202 M	G43B B 202 M	
5,000	502	G43BT B 502 M	G43B B 502 M	
10,000	103	G43BT B 103 M	G43B B 103 M	
20,000	203	G43BT B 203 M	G43B B 203 M	
50,000	503	G43BT B 503 M	G43B B 503 M	
100,000	104	G43BT B 104 M	G43B B 104 M	
200,000	204	G43BT B 204 M	G43B B 204 M	
500,000	504	G43BT B 504 M	G43B B 504 M	
1,000,000	105	G43BT B 105 M	G43B B 105 M	
2,000,000	205	G43BT B 205 M	G43B B 205 M	

G43B**G43E Reverse Markings, Gull-Wing, Top Adjust**

10	100	G43ET B 100 M	G43E B 100 M	
20	200	G43ET B 200 M	G43E B 200 M	
50	500	G43ET B 500 M	G43E B 500 M	
100	101	G43ET B 101 M	G43E B 101 M	
200	201	G43ET B 201 M	G43E B 201 M	
500	501	G43ET B 501 M	G43E B 501 M	
1,000	102	G43ET B 102 M	G43E B 102 M	
2,000	202	G43ET B 202 M	G43E B 202 M	
5,000	502	G43ET B 502 M	G43E B 502 M	
10,000	103	G43ET B 103 M	G43E B 103 M	
20,000	203	G43ET B 203 M	G43E B 203 M	
50,000	503	G43ET B 503 M	G43E B 503 M	
100,000	104	G43ET B 104 M	G43E B 104 M	
200,000	204	G43ET B 204 M	G43E B 204 M	
500,000	504	G43ET B 504 M	G43E B 504 M	
1,000,000	105	G43ET B 105 M	G43E B 105 M	
2,000,000	205	G43ET B 205 M	G43E B 205 M	

G43E**G43SA J-Hook, Side Adjust**

10	100	G43SAT1 B 100 M	G43SA B 100 M	
20	200	G43SAT1 B 200 M	G43SA B 200 M	
50	500	G43SAT1 B 500 M	G43SA B 500 M	
100	101	G43SAT1 B 101 M	G43SA B 101 M	
200	201	G43SAT1 B 201 M	G43SA B 201 M	
500	501	G43SAT1 B 501 M	G43SA B 501 M	
1,000	102	G43SAT1 B 102 M	G43SA B 102 M	
2,000	202	G43SAT1 B 202 M	G43SA B 202 M	
5,000	502	G43SAT1 B 502 M	G43SA B 502 M	
10,000	103	G43SAT1 B 103 M	G43SA B 103 M	
20,000	203	G43SAT1 B 203 M	G43SA B 203 M	
50,000	503	G43SAT1 B 503 M	G43SA B 503 M	
100,000	104	G43SAT1 B 104 M	G43SA B 104 M	
200,000	204	G43SAT1 B 204 M	G43SA B 204 M	
500,000	504	G43SAT1 B 504 M	G43SA B 504 M	
1,000,000	105	G43SAT1 B 105 M	G43SA B 105 M	
2,000,000	205	G43SAT1 B 205 M	G43SA B 205 M	

G43SA

G43 Series**Part Numbers**

Nominal Resistance		Resistance Tolerance $\pm 20\%$		Potentiometer Styles
Value (Ω)	Code	Catalog No. Tape & Reel	Catalog No. Bulk	

G43BF Gull-Wing, Bottom Adjust

10	100	—	G43BF B 100 M	
20	200	—	G43BF B 200 M	
50	500	—	G43BF B 500 M	
100	101	—	G43BF B 101 M	
200	201	—	G43BF B 201 M	
500	501	—	G43BF B 501 M	
1,000	102	—	G43BF B 102 M	
2,000	202	—	G43BF B 202 M	
5,000	502	—	G43BF B 502 M	
10,000	103	—	G43BF B 103 M	
20,000	203	—	G43BF B 203 M	
50,000	503	—	G43BF B 503 M	
100,000	104	—	G43BF B 104 M	
200,000	204	—	G43BF B 204 M	
500,000	504	—	G43BF B 504 M	
1,000,000	105	—	G43BF B 105 M	
2,000,000	205	—	G43BF B 205 M	

G43BF**Packaging****Standard:****Tape & Reel Packaging****G43AT, G43DT, G43BT, G43ET**

500 pieces per 7" reel.

G43SAT1

750 pieces per 10" reel.

Bulk Packaging**All G43 Models**

100 pieces per vinyl bag.

1,000 pieces per box.

Cleaning Guidelines

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