



Features

- Infinite resolution element
- Standard linearity: 1.0%
- Extended temperature range: -65°C to +125°C
- Extended life version (6538)
- Output smoothness: 0.1% standard

- Molded-in rear terminals
- Non-standard features and specifications available

6537/6538 - 22mm Precision Potentiometer

Electrical Characteristics ¹	6537	6538
Standard Resistance Range.....	1K to 100K ohms	1K to 100K ohms
Resistance Tolerance	±10%	±10%
Independent Linearity.....	±1%	±1%
Resolution	Essentially infinite	Essentially infinite
Effective Electrical Angle	340° +3°	340° +3°
End Voltage	0.5% max	0.5% max
Output Smoothness	0.1%	0.1%
Power Rating (Voltage Limited By Power Dissipation or 300 VAC, Whichever is Less)		
+70°C.....	1 watt	1 watt
+125°C.....	0 watt	0 watt
Dielectric Withstanding		
Voltage.....	MIL-STD-202, Method 301	MIL-STD-202, Method 301
Sea Level	750 VAC min.	750 VAC min.
Insulation Resistance		
(500 VDC).....	500 megohms min.	1,000 megohms min.

Environmental Characteristics ¹	6537	6538
Operating Temperature		
Static Operation Temp Range.....	-65°C to +125°C	-65°C to +125°C
Dynamic Temp Range.....	+1°C to +125°C	+1°C to +125°C
Temperature Coefficient	±500ppm/°C max.	±500ppm/°C max
Moisture Resistance	MIL-STD-202, Method 106	MIL-STD-202, Method 106
Total Resistance Shift.....	±10% max.	±10% max
Vibration.....	15G	15G
Wiper Bounce	0.1 millisecond max	0.1 millisecond max
Total Resistance Shift.....	±5% max.	±5% max
Voltage Ratio Shift.....	±0.5% max.	±0.5% max
Shock.....	50G	50G
Wiper Bounce	0.1 millisecond max	0.1 millisecond max
Total Resistance Shift.....	±5% max.	±5% max
Voltage Ratio Shift.....	±0.5% max.	±0.5% max
Load Life.....	1,000 hours, 1 watt	1,000 hours, 1 watt
Total Resistance Shift.....	±10% max.	±10% max
Rotational Life (No Load).....	10,000,000 shaft rev's	20,000,000 shaft rev's
Total Resistance Shift.....	±10% max.	±10% max

Mechanical Characteristics ¹	6537	6538
Mechanical Angle	Continuous	Continuous
Backlash	0.1° max	0.1° max
Shaft Runout.....	0.005 in. (0.13mm) T.I.R.	0.001 in. (0.025mm) T.I.R.
Shaft End Play	0.005 in. (0.13mm) T.I.R.	0.005 in. (0.13mm) T.I.R.
Shaft Radial Play	0.005 (0.13mm) T.I.R.	0.003 in. (0.08mm) T.I.R.
Pilot Diameter		
Runout	0.0025 in. (0.06mm) T.I.R.	0.0025 in. (0.06mm) T.I.R.
Lateral Runout.....	0.003 in. (0.08mm) T.I.R.	0.003 in. (0.08mm) T.I.R.
Torque (Starting & Running).....	0.5 oz.-in. (0.40 Ncm) max.	0.25 oz.-in. (0.18 Ncm) max.
Terminals.....	Molded-in rear	Molded-in rear

Recommended Part Numbers

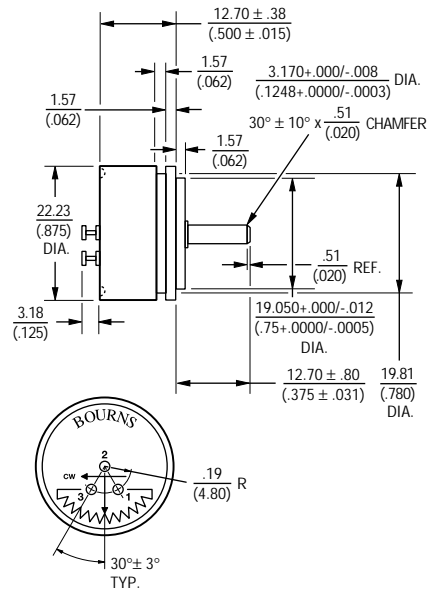
Part Number	Resistance (Ω)
6537S-1-103	10,000

BOLD-FACE LISTINGS ARE IN STOCK AND READILY AVAILABLE THROUGH DISTRIBUTION.

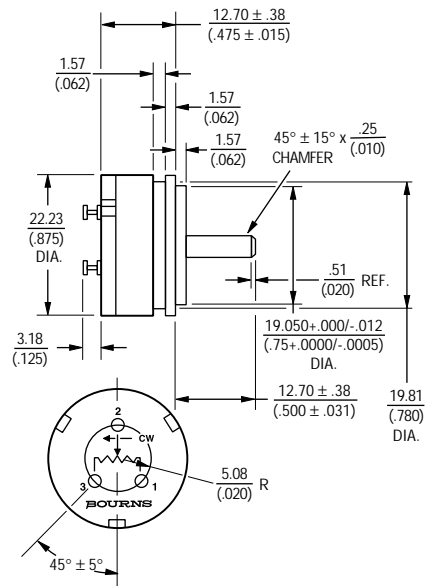
FOR OTHER OPTIONS CONSULT FACTORY.

Part Number	Resistance (Ω)
6538S-1-102	1,000
6538S-1-202	2,000
6538S-1-502	5,000
6538S-1-103	10,000

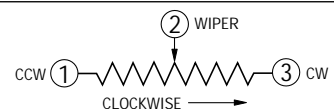
6537



6538 BALL BEARING



TOLERANCES: EXCEPT WHERE NOTED
 DECIMALS: .XX ± $\frac{.25}{.010}$, .XXX ± $\frac{.13}{.005}$
 FRACTIONS: ±1/64
 DIMENSIONS: $\frac{MM}{(IN.)}$



¹At room ambient: +25°C nominal and 50% relative humidity nominal, except as noted. Specifications are subject to change without notice.