BOURNS 3352E-1-502LF

Instruction Manual

BOURNS 3352E-1-502LF Cermet Trimmer

Model: 3352E-1-502LF | Brand: BOURNS

1. Introduction

This manual provides essential information for the proper use, installation, and maintenance of the BOURNS 3352E-1-502LF Cermet Trimmer. This component is a single-turn cermet potentiometer designed for precise resistance adjustment in electronic circuits. It is commonly used in applications requiring fine tuning of voltage, current, or frequency.

2. Product Overview

Figure 2.1: BOURNS 3352E-1-502LF Cermet Trimmer. This image shows the top and side view of the compact, circular cermet trimmer with three through-hole pins for circuit board mounting. The top features a slotted adjustment screw for precise resistance tuning. The body is white with "1 MEGΩ" printed on it, indicating its resistance range.

The 3352E-1-502LF is a compact, single-turn cermet trimming potentiometer. Its design allows for easy integration into printed circuit boards (PCBs) via through-hole mounting. The cermet element provides excellent stability and reliability, making it suitable for a wide range of electronic applications where precise and stable resistance adjustment is critical.

3. Specifications

Attribute	Value
Model Number	3352E-1-502LF
Resistance	5K Ohm

Attribute	Value
Tolerance	20%
Power Rating	0.5W (1/2W)
Turns (Electrical/Mechanical)	1 (Elec) / 1 (Mech)
Dimensions (L x W x H)	8.89 x 10.67 x 5.33mm
Mounting Type	Pin Thru-Hole
Manufacturer	Bourns

4. Setup and Installation

Proper installation is crucial for the reliable operation of the cermet trimmer. Follow these guidelines:

1. **Circuit Design:** Ensure your circuit design correctly incorporates the trimmer's resistance range and power rating. Refer to the product datasheet for detailed electrical characteristics.
2. **Mounting:** Insert the three pins of the trimmer into the corresponding holes on your Printed Circuit Board (PCB). Ensure the component sits flush against the board surface.
3. **Soldering:** Solder the pins to the PCB using appropriate soldering techniques. Use lead-free solder if required. Avoid excessive heat, as prolonged exposure can damage the component. Recommended soldering temperature and time should adhere to industry standards for through-hole components.
4. **Orientation:** While the electrical function is not orientation-dependent for this specific model, consistent orientation can aid in assembly and troubleshooting.

5. Operating Instructions

The 3352E-1-502LF is a single-turn trimmer, meaning its full resistance range is covered within one complete rotation of the adjustment screw.

1. **Adjustment Tool:** Use a small, non-conductive screwdriver that fits snugly into the adjustment slot on the top of the trimmer. Using an incorrect tool can damage the adjustment mechanism.
2. **Resistance Measurement:** Connect an ohmmeter or multimeter to the appropriate pins of the trimmer (typically the wiper and one end terminal) to monitor the resistance while adjusting.
3. **Adjustment:** Gently turn the adjustment screw clockwise to increase resistance and counter-clockwise to decrease resistance (or vice-versa, depending on the specific pin configuration and circuit design). Turn slowly and carefully to achieve the desired resistance value. Do not force the screw beyond its mechanical stops.
4. **Power Considerations:** Ensure the power applied to the trimmer does not exceed its maximum power rating (0.5W) during operation to prevent overheating and damage.

6. Maintenance

Cermet trimmers are generally low-maintenance components. However, adhering to these practices can prolong their lifespan and ensure optimal performance:

- **Cleaning:** If necessary, gently clean the exterior of the trimmer with a soft, dry cloth. Avoid using harsh chemicals or solvents that could damage the plastic housing or internal components.

- **Storage:** Store unused trimmers in their original packaging in a cool, dry environment, away from direct sunlight, excessive humidity, and corrosive substances.
- **Handling:** Handle components by their body, not by the pins, to prevent bending or damage. Avoid dropping or subjecting the trimmer to mechanical shock.
- **Environmental Conditions:** Operate the trimmer within its specified temperature and humidity ranges to ensure stable performance.

7. Troubleshooting

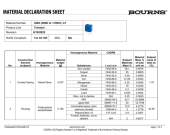
If you encounter issues with the 3352E-1-502LF trimmer, consider the following common problems and solutions:

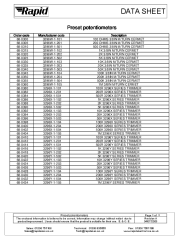
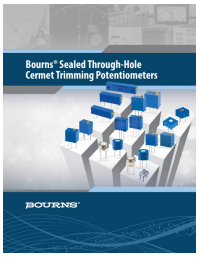
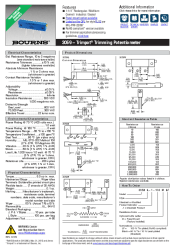
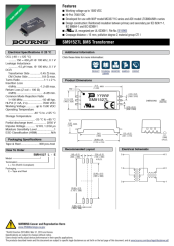
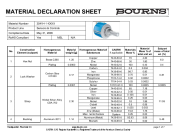
Problem	Possible Cause	Solution
Resistance not changing	Damaged adjustment mechanism; Open circuit in the resistive element; Incorrect wiring.	Verify wiring connections. If mechanism is damaged or element is open, replace the trimmer.
Resistance is erratic or noisy	Contamination on resistive track; Worn wiper; Poor solder joint.	Check solder joints and reflow if necessary. If internal component is faulty, replace the trimmer.
Trimmer gets hot during operation	Exceeding power rating; Short circuit in the circuit.	Reduce current/voltage to stay within 0.5W rating. Check circuit for shorts.
Physical damage (e.g., broken pins)	Improper handling or installation.	Replace the damaged trimmer. Ensure careful handling during installation.

8. Warranty and Support

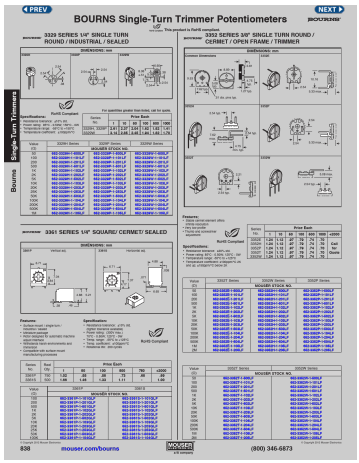
Specific warranty information for the BOURNS 3352E-1-502LF Cermet Trimmer is typically provided by the distributor or the manufacturer, Bourns. Please refer to your purchase documentation or contact your supplier for details regarding warranty terms and technical support. As this is a component, warranty often covers manufacturing defects rather than issues arising from improper installation or use.

Related Documents - 3352E-1-502LF

	Bourns 3262 Trimmer Material Declaration Sheet | Composition & RoHS Compliance This material declaration sheet from Bourns details the composition of the 3262 Trimmer, including homogeneous materials, CASRN, and mass percentages. It provides essential compliance and environmental information for the 250 Ohm to 10K Ohm trimmer model.

	[Bourns 3296 Series Multi-Turn Cermet Trimmer Potentiometers Datasheet] Datasheet for Bourns 3296W, 3296X, and 3296Y series multi-turn cermet trimmer potentiometers, detailing features, electrical and environmental characteristics, physical specifications, and common dimensions.
	[Bourns Sealed Through-Hole Cermet Trimming Potentiometers] Explore Bourns' comprehensive range of sealed through-hole cermet trimming potentiometers, featuring high reliability and diverse applications across aerospace, communications, industrial, and medical markets. Discover detailed specifications, model information, and global sales contacts.
	[Bourns 3059 Trimpot Trimming Potentiometer Datasheet] Detailed specifications and product dimensions for the Bourns 3059 Trimpot Trimming Potentiometer, including electrical, environmental, and physical characteristics, and ordering information.
	[SM91527L BMS Transformer - Bourns Product Specifications] Detailed specifications and features for the Bourns SM91527L BMS Transformer, including electrical characteristics, product dimensions, recommended layout, and reflow soldering profile.
	[Bourns 3541H-1-XXXX Material Declaration Sheet] Detailed material declaration for Bourns 3541H-1-XXXX sensors and controls, listing component materials, weights, and CAS numbers as per industry standards.

Documents - BOURNS – 3352E-1-502LF



[pdf] Specifications Dimension Guide Catalog

BOURNS Single Turn Trimmer Potentiometers Mouser Electronics Inc ElectronicsResistance tolerance ±20% std Power rating 85°C 50W 125°C 0W Temperature range 55°C to coefficient ±100ppm °C 2Kv1mouser catalog catalogusd 645 838 srsltid AfmBOoqcDn0eqt hPlkUIOTSUXvywyg7DAwZQObeiaJF6Dm 6Xluvdly |||

BOURNS Single-Turn Trimmer Potentiometers 3329 SERIES 1/4 SINGLE TURN ROUND / INDUSTRIAL / SEALED ... 500LF 652-3352E-1-101LF 652-3352E-1-201LF 652-3352E-1-501LF 652-3352E-1-102LF 652-3352E-1-202LF 652-**3352E-1-502LF** 652-3352E-1-103LF 652-3352E-1-203LF 652-3352E-1-503LF 652-3352E-1-104LF 652-3352E-1-20...

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