Bourns® Model MF-RHS Series Multifuse® High Temperature Polymer PTC Resettable Fuses

INTRODUCTION
Bourns has expanded its portfolio of 125 °C rated polymer PTC resettable fuse thermistors with the new MF-RHS Model Series. Part of Bourns’ successful line of high temperature PTPC resettable fuses, this series is available in a radial configuration with standard straight leads or optional kinked leads.

These added 125 °C rated Multifuse® Polymer PTC (PTC) devices are specifically designed to provide robust, cost-effective overcurrent and overtemperature protection in certain harsh environments where high ambient operating temperatures are prevalent and long-life reliability is crucial. The series provides hold currents up to 13 A with maximum currents of 100 A and maximum voltages up to 42 VDC. This allows designers to more precisely and confidently specify overcurrent protection into designs where operating temperatures may exceed 85 °C. Bourns’ offering of high temperature SMD and radial PPTC devices also provides enhanced thermal derating performance compared to traditional 85 °C rated consumer-grade models.

FEATURES
- Resettable polymer PTC thermistors for high reliability overcurrent and overtemperature protection
- Operating temperature range from -40 °C to +125 °C
- High hold currents (up to 13 A) at elevated ambient operating temperatures, with lower thermal derating factors compared to traditional 85 °C rated consumer-grade models
- Up to 42 VDC and 100 A maximum ratings
- Tape and reel packaging for automated assembly
- UL and CSA recognized
- RoHS compliant*
- Halogen free**

PRODUCT FIT
The requirement for a wider selection of robust overcurrent and overtemperature protection solutions. Additional requirements around higher temperature ratings and long-life performance make the new Bourns’ high temperature PPTC series an ideal cost-effective design solutions continues to climb. The need for robust highly reliable protection is applicable in IoT industrial automation applications, within cloud-based networking systems and smart home appliances. Bourns’ high temperature PPTC devices help eliminate the worry of temperature-based nuisance tripping across all such applications while providing enhanced, high-reliability overcurrent and overtemperature protection in space-saving surface mount and radial packages.

APPLICATIONS
- Higher operating temperature ratings (125 °C) provide effective overcurrent and overtemperature protection in certain harsh environments and high reliability applications
- Available in a variety of current and voltage ratings to support a range of markets and applications
- Backed by Bourns’ world-class customer service and technical support, and available throughout Bourns’ global network of authorized distributors

BENEFITS
- Higher operating temperature ratings (125 °C) provide effective overcurrent and overtemperature protection in certain harsh environments and high reliability applications
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**Bourns considers a product to be "halogen free" if (a) the Bromine (Br) content is 900 ppm or less; (b) the Chlorine (Cl) content is 900 ppm or less; and (c) the total Bromine (Br) and Chlorine (Cl) content is 1500 ppm or less.
# Product Characteristics

<table>
<thead>
<tr>
<th>Series</th>
<th>Photo</th>
<th>Footprint</th>
<th>$V_{\text{max}}$</th>
<th>$I_{\text{hold}}$ (A)</th>
<th>Operating Temp. (°C)</th>
<th>Agency Recognition</th>
<th>AEC-Q200 Compliant</th>
</tr>
</thead>
<tbody>
<tr>
<td>MF-RHS</td>
<td>—</td>
<td>16 VDC</td>
<td>16 VDC</td>
<td>3.5 – 13.0</td>
<td>-40 to +125</td>
<td>UL, CSA</td>
<td>—</td>
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</tbody>
</table>

## Resistance-Temperature Curve

### Standard Temperature vs. High Temperature Product

- **Standard Temperature Rated Devices**
- **High Temperature Rated Devices**

## Thermal Derating Graph & Table

### Thermal Derating Graph

- **MF-RG700**
- **MF-RHS700**

### Thermal Derating Table

<table>
<thead>
<tr>
<th>Series</th>
<th>Ambient Operating Temperature (°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MF-RG700</td>
<td>-40</td>
</tr>
<tr>
<td>MF-RHS700</td>
<td>10.30</td>
</tr>
</tbody>
</table>

**Notes:**
- “Bourns” is a registered trademark of Bourns, Inc. in the U.S. and other countries.
- Bourns® Model MF-RHS Series Multifuse® High Temperature Polymer PTC Resettable Fuses
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