Features

- RoHS compliant*
- Small package dimensions
- Power rating at 70 °C = 0.03 W
- Three layer termination process with nickel barrier helps prevent leaching and provides excellent solderability

This series is obsolete and not recommended for new designs.

CR01005-AS Series - Sulfur-Resistant Thick Film Chip Resistors

General Characteristics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>CR01005-AS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Rating @ 70 °C per Resistor</td>
<td>0.03 W</td>
</tr>
<tr>
<td>Resistor Tolerance</td>
<td>±1 %, ±5 %</td>
</tr>
<tr>
<td>Resistance Range - 1 % Tolerance (E24 + E96)</td>
<td>10 ohms to 1 meghohm</td>
</tr>
<tr>
<td>Resistance Range - 5 % Tolerance (E24), Zero-ohm Jumper</td>
<td>10 ohms to 0 ohms</td>
</tr>
<tr>
<td>Temperature Coefficient of Resistance (TCR) 1 %, 5 % Tolerance</td>
<td>±250 ppm/°C, N/A</td>
</tr>
<tr>
<td>Maximum Overload Voltage</td>
<td>15 V</td>
</tr>
<tr>
<td>Maximum Working Voltage</td>
<td>30 V</td>
</tr>
<tr>
<td>Operating Temperature Range</td>
<td>-55 to +125 °C</td>
</tr>
<tr>
<td>Storage Conditions</td>
<td>+5°C to +40°C, 25~75 % RH, 1 year</td>
</tr>
<tr>
<td>Derating Temperature</td>
<td>+70 °C</td>
</tr>
<tr>
<td>Packaging</td>
<td>Embossed Tape</td>
</tr>
<tr>
<td>Zero-ohm Jumper: Current Rating</td>
<td>0.3 A per element</td>
</tr>
<tr>
<td>Maximum Resistance</td>
<td>100 milliohms</td>
</tr>
</tbody>
</table>

Environmental Characteristics

<table>
<thead>
<tr>
<th>Specification</th>
<th>Test Method (JIS C 5201-1)</th>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short Time Overload</td>
<td>Rated voltage x 2.5, 5 seconds</td>
<td>±(2 % +0.1 ohm)</td>
</tr>
<tr>
<td>Soldering Heat</td>
<td>+260 °C ±5 °C, 10 ±1 seconds</td>
<td>±(2 % +0.1 ohm)</td>
</tr>
<tr>
<td>Temperature Cycling</td>
<td>-55 °C (30 minutes) - normal (2–3 minutes) +125 °C (30 minutes) - normal (2–3 minutes), 5 cycles</td>
<td>±(5 % +0.05 ohm)</td>
</tr>
<tr>
<td>Moisture Load Life</td>
<td>+60 °C, 90~95 % RH, 1000 hours, 1.5 hours ON, 0.5 hours OFF</td>
<td>±(5 % +0.1 ohm)</td>
</tr>
<tr>
<td>Load Life</td>
<td>+70 °C, 1000 hours, 1.5 hours ON, 0.5 hours OFF</td>
<td>±(5 % +0.1 ohm)</td>
</tr>
<tr>
<td>Sulfur Test</td>
<td>3 ppm H2S, +50 °C, 90~95 % RH, 100 hours</td>
<td>±(5 % +0.1 ohm)</td>
</tr>
</tbody>
</table>

NOTE: Zero-ohm jumper ≤100 milliohms.

Soldering Profile

How To Order

CR 01005 - F W - 1002 H AS

Chip Resistor
- Size: CR 01005
- Tolerance: F = 1 %, J = 5 %
- TCR (ppm/°C): W = ±250
- / = N/A (for Jumper)

Resistance Code
- For 1 % Tolerance <100 ohms: “R” designates decimal point (example: 24R3 = 24.3 ohms)
- For 5 % Tolerance >100 ohms: First three digits are significant, fourth digit represents number of zeros to follow (example: 8252 = 82.5K ohms)

Packaging
- H = Embossed Tape (40,000 pcs. on 7-inch plastic reel)

Special Characteristics
- AS = Sulfur-resistant, Tin-plated terminations (RoHS compliant)

For Standard Values Used in Capacitors, Inductors, and Resistors, click here.

Construction

WARNING: Cancer and Reproductive Harm
www.P65Warnings.ca.gov

*RoHS Directive 2015/883, Mar 31, 2015 and Annex. Specifications are subject to change without notice. Users should verify actual device performance in their specific applications. The products described herein and this document are subject to specific legal disclaimers as set forth on the last page of this document, and at www.bourns.com/docs/legal/disclaimer.pdf.
Features (Continued)

- Suitable for most types of soldering processes
- Standard packaging on paper tape and reel
- Sulfur-resistant design

CR01005-AS Series - Sulfur-Resistant Thick Film Chip Resistors

Derating Curve

<table>
<thead>
<tr>
<th>Ambient Temp. (˚C)</th>
<th>70 C</th>
<th>125 C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated Load (%)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Typical Part Marking

............................................. No Marking

Recommended Land Pattern

Product Dimensions

<table>
<thead>
<tr>
<th>Dim.</th>
<th>CR01005-AS</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>0.40 ± 0.02 (0.016 ± 0.001)</td>
</tr>
<tr>
<td>W</td>
<td>0.20 ± 0.02 (0.008 ± 0.001)</td>
</tr>
<tr>
<td>H</td>
<td>0.13 ± 0.02 (0.005 ± 0.001)</td>
</tr>
<tr>
<td>I1</td>
<td>0.10 ± 0.03 (0.004 ± 0.001)</td>
</tr>
<tr>
<td>I2</td>
<td>0.10 ± 0.03 (0.004 ± 0.001)</td>
</tr>
</tbody>
</table>

Packaging Specifications

Embossed Tape

<table>
<thead>
<tr>
<th>Reel Diameter</th>
<th>180 (7.087)</th>
</tr>
</thead>
</table>

Asia-Pacific: Tel: +886-2 2562-4117 • Email: asiacus@bourns.com
EMEA: Tel: +36 88 885 877 • Email: eurocus@bourns.com
The Americas: Tel: +1-951 781-5500 • Email: americus@bourns.com
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