



Features

- EB welded metal strip
- Very high power
- Excellent long term stability
- Low resistance, low TCR
- RoHS compliant* and halogen free**

Applications

- Current sensing
- Voltage division
- Power modules
- Frequency converters
- Industrial

Model CSI2H-5930 Series Current Sense Resistor

Electrical Characteristics

| Characteristic | Model CSI2H-5930 Series ⁴ | |
|---|--|------------------|
| Resistance Range / Power Rating @70 °C ¹ | CSI2H-5930C-000 ³ | < 0.2 mΩ / 160 A |
| | CSI2H-5930R-L200x | 0.2 mΩ / 15 W |
| | CSI2H-5930R-L300x | 0.3 mΩ / 15 W |
| | CSI2H-5930R-L500x | 0.5 mΩ / 8 W |
| | CSI2H-5930K-1L00x | 1.0 mΩ / 9 W |
| | CSI2H-5930K-2L00x | 2.0 mΩ / 7 W |
| Operating Temperature Range | -55 to +170 °C | |
| TCR - Resistive Alloy ² | ±50 PPM/°C (20~60 °C) | |
| Temperature Coefficient including Copper Terminals | CSI2H-5930R-L200x | ±150 PPM/°C |
| | CSI2H-5930R-L300x | ±150 PPM/°C |
| | CSI2H-5930R-L500x | ±100 PPM/°C |
| | CSI2H-5930K-1L00x | ±75 PPM/°C |
| | CSI2H-5930K-2L00x | ±75 PPM/°C |
| Inductance | Material type R: < 3 nH Material type K: < 5 nH | |
| Resistance Tolerance | ±1 %, ±2 %, ±5 % | |

¹Terminal temperature ²For full TCR range, refer to TCR curve
³Tinned copper ⁴Other resistance values are available upon request - contact factory

Additional Information

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How to Order

Model CSI 2H - 5930 R - L500 J

No. of Terminals & Style _____

Size _____

Material Type _____
(See Part Number Table)

Resistance Code (milliohms) _____
"L" represents decimal point
(examples: L500 = .500 milliohms;
1L00 = 1.00 milliohm)

Resistance Tolerance _____
F = ±1 %
G = ±2 %
J = ±5 %

Environmental Characteristics

| Characteristic | Test Condition | ΔTR Max. |
|------------------------------|--|--------------------|
| Thermal Shock | -55 to +150 °C / 1000 Cycles | 0.50 % |
| Short Time Overload | 5 Times Rated Power for 5 Second Duration | 0.50 % |
| Resistance to Soldering Heat | +260 °C / 10 Seconds | 0.50 % |
| High Temperature Exposure | +170 °C / 1000 Hours | 1.00 % |
| Low Temperature Storage | -65 °C / 24 Hours | 0.10 % |
| Moisture Resistance | 10 Days with Cold Shock, No Load | 0.20 % |
| Mechanical Shock | 100 g, 6 ms half sine | 0.20 % |
| Vibration, High Frequency | 5 g, 10-2000 Hz | 0.20 % |
| Load Life | 1000 Hours, Max. Load, Terminal Temperature 130 °C | 1.00 % |
| Solderability | J-STD-002 | 95 % Coverage Min. |
| ESD | AEC-Q200-002, 25 kV | 0.25 % |
| Board Flex | 60 Sec. Min. Holding Time | 0.25 % |

* RoHS Directive 2015/863, Mar 31, 2015 and Annex.
 **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.

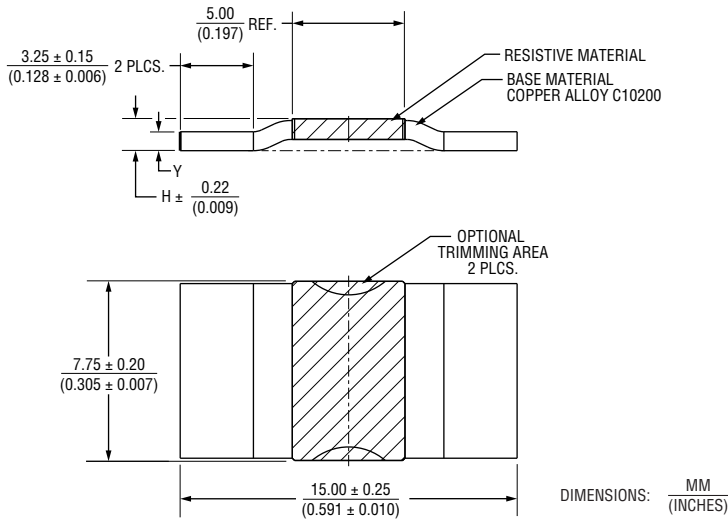
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 Users should verify actual device performance in their specific applications.
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Model CSI2H-5930 Series Current Sense Resistor

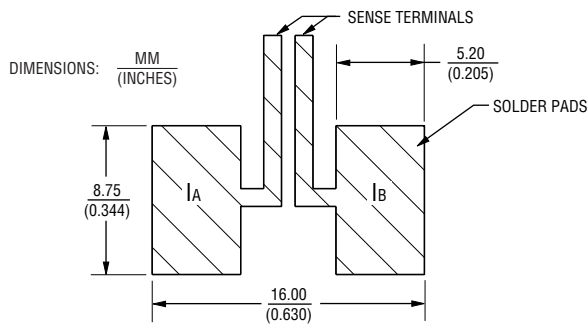
BOURNS®

Product Dimensions

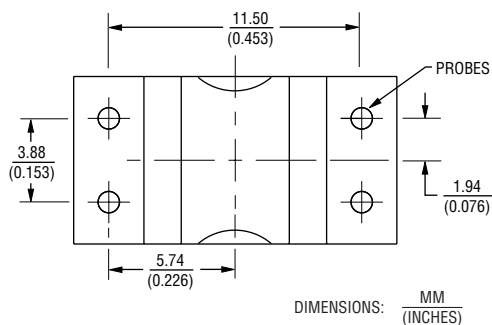


| Part Number | Dimension H max. | Dimension Y max. | Alloy |
|-------------------|------------------------|------------------------|-------|
| CSI2H-5930C-000 | $\frac{0.93}{(0.037)}$ | $\frac{0.43}{(0.017)}$ | Cu-Sn |
| CSI2H-5930R-L200x | $\frac{1.82}{(0.072)}$ | $\frac{1.20}{(0.047)}$ | Cu-Mn |
| CSI2H-5930R-L300x | $\frac{1.39}{(0.055)}$ | $\frac{0.84}{(0.033)}$ | Cu-Mn |
| CSI2H-5930R-L500x | $\frac{1.01}{(0.040)}$ | $\frac{0.61}{(0.024)}$ | Cu-Mn |
| CSI2H-5930K-1L00x | $\frac{1.41}{(0.056)}$ | $\frac{0.91}{(0.036)}$ | Fe-Cr |
| CSI2H-5930K-2L00x | $\frac{0.99}{(0.039)}$ | $\frac{0.49}{(0.019)}$ | Fe-Cr |

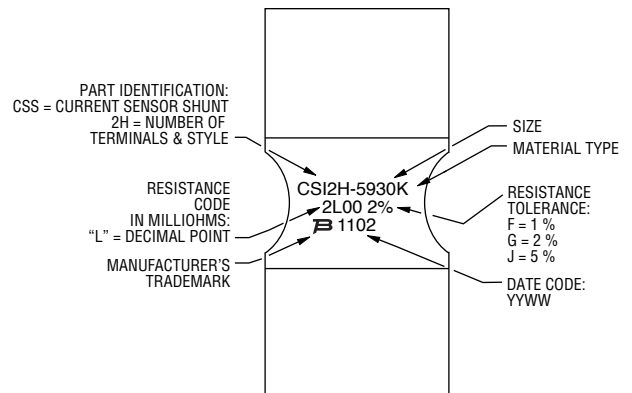
Recommended Pad Layout



Recommended Measurements



Typical Part Marking



Electrical Schematic



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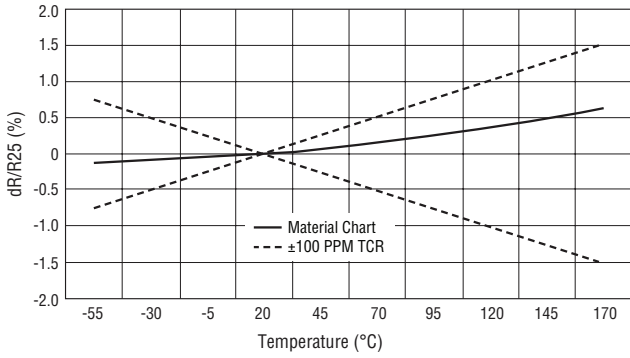
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Model CSI2H-5930 Series Current Sense Resistor

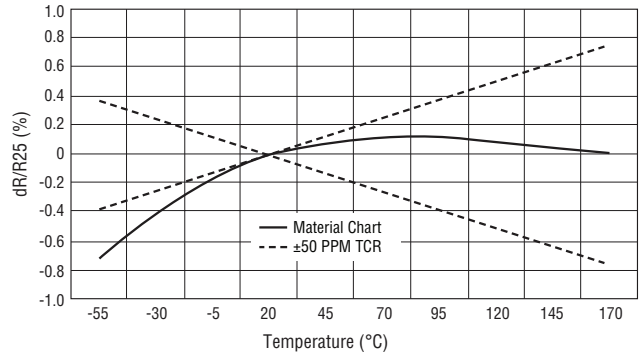


TCR Curves

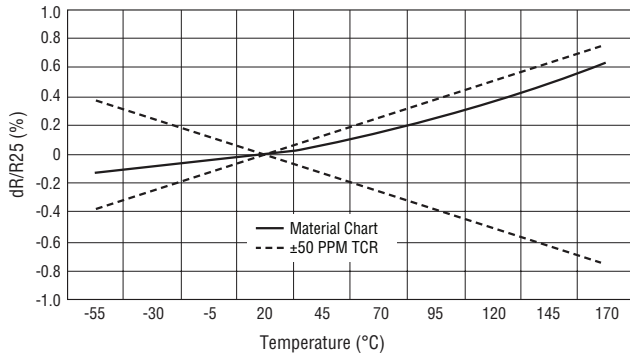
K-Type Resistive Material



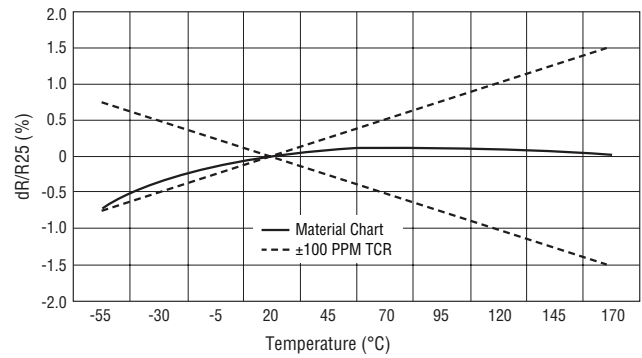
R-Type Resistive Material



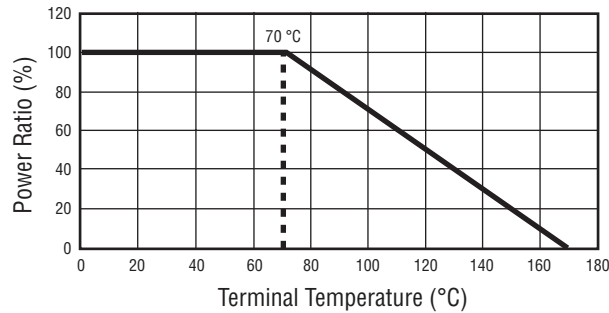
K-Type Resistive Material



R-Type Resistive Material



Terminal Temperature Derating Curve



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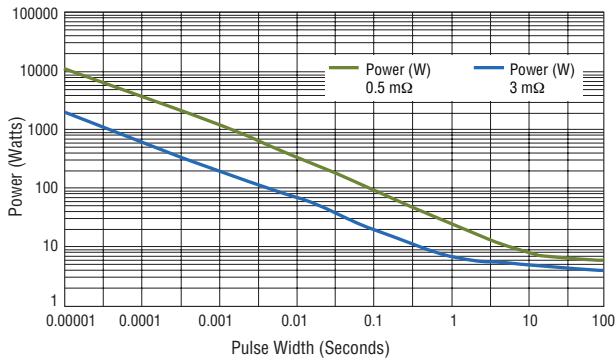
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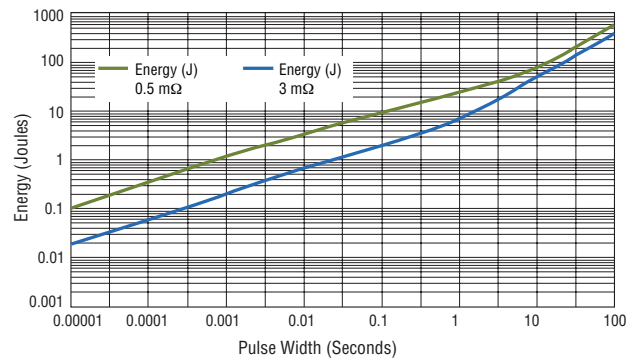
Model CSI2H-5930 Series Current Sense Resistor

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Maximum Pulse Power



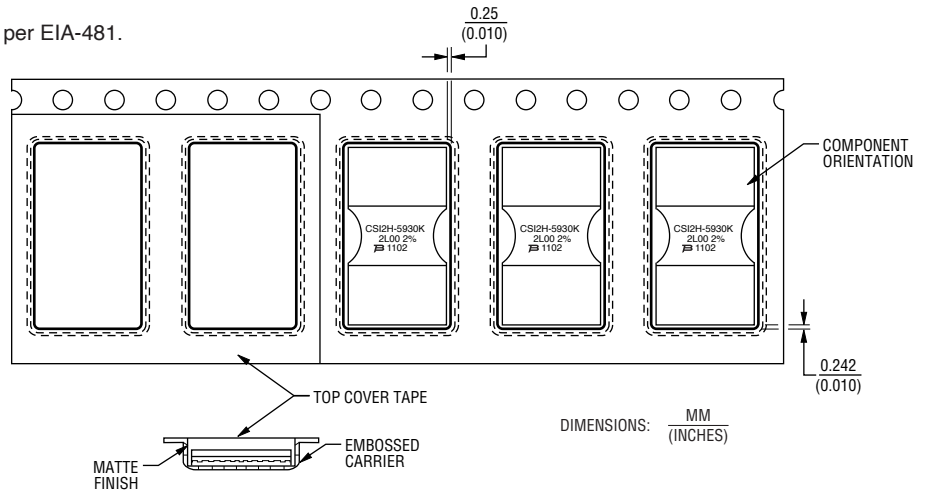
Maximum Pulse Energy



Packaging Specifications

Components packaged on plastic tape & reel per EIA-481.

Standard Reel Size: 13 inches
 Tape Width: 24 mm
 Quantity: 1,500 pcs. per reel



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