



Features

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

Applications

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

Model CSI2H-2512 Series Current Sense Resistor

Electrical Characteristics

Characteristic	Model CSI2H-2512 Series ⁴	
Resistance Range / Power Rating @70 °C ¹	CSI2H-2512C-000 ³	< 0.1 mΩ / 100 A
	CSI2H-2512R-L300x	0.3 mΩ / 6 W
	CSI2H-2512R-L500x	0.5 mΩ / 6 W
	CSI2H-2512R-1L00x	1.0 mΩ / 5 W
	CSI2H-2512K-1L80x	1.8 mΩ / 5 W
	CSI2H-2512K-2L00x	2.0 mΩ / 5 W
	CSI2H-2512K-2L30x	2.3 mΩ / 5 W
	CSI2H-2512K-3L00x	3.0 mΩ / 4 W
	CSI2H-2512K-3L50x	3.5 mΩ / 4 W
Operating Temperature Range	-55 to +170 °C	
TCR - Resistive Alloy ²	±50 PPM/°C (20~60 °C)	
Temperature Coefficient including Copper Terminals	CSI2H-2512R-L300x	±150 PPM/°C
	CSI2H-2512R-L500x	±100 PPM/°C
	CSI2H-2512R-1L00x	±75 PPM/°C
	CSI2H-2512K-1L80x	±75 PPM/°C
	CSI2H-2512K-2L00x	±75 PPM/°C
	CSI2H-2512K-2L30x	±75 PPM/°C
	CSI2H-2512K-3L00x	±75 PPM/°C
	CSI2H-2512K-3L50x	±75 PPM/°C
Inductance	Material type R: < 2 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

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 %

Additional Information

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How to Order

Model CSI 2H - 2512 R - L500 J

No. of Terminals & Style _____

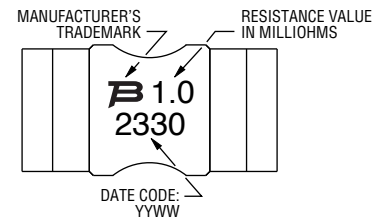
Size _____

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 %

Typical Part Marking



* 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.

Specifications are subject to change without notice.

Users should verify actual device performance in their specific applications.

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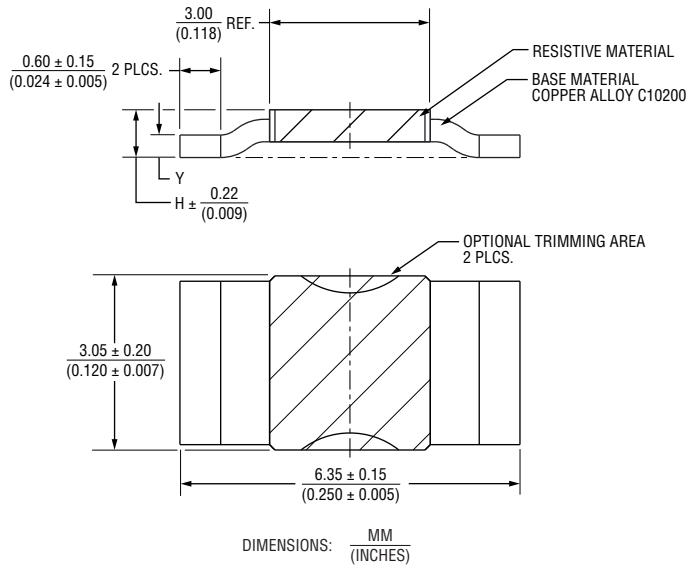


CALIFORNIA WARNING: Can expose you to lead, a carcinogen and reproductive toxicant. See www.P65Warnings.ca.gov

Model CSI2H-2512 Series Current Sense Resistor

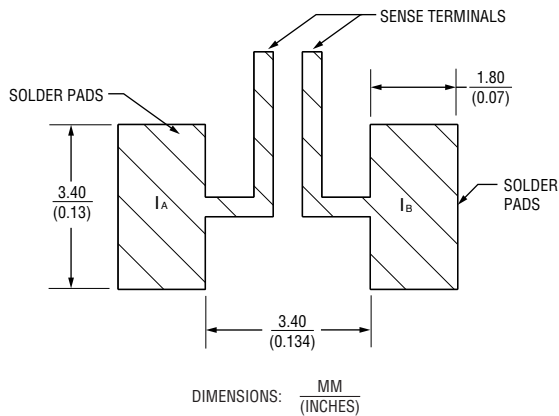
BOURNS®

Product Dimensions

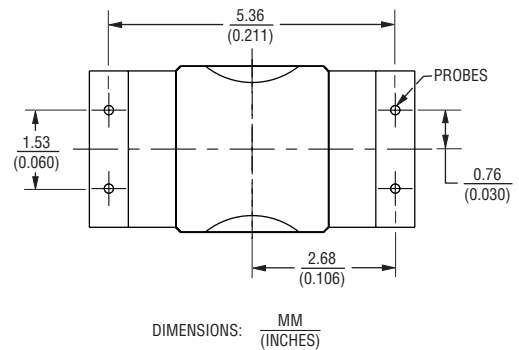


Part Number	Dimension H max.	Dimension Y max.	Alloy
CSI2H-2512C-000	$\frac{0.78}{(0.031)}$	$\frac{0.43}{(0.017)}$	Cu-Sn
CSI2H-2512R-L300x	$\frac{1.65}{(0.065)}$	$\frac{1.21}{(0.048)}$	Cu-Mn
CSI2H-2512R-L500x	$\frac{1.21}{(0.048)}$	$\frac{0.86}{(0.034)}$	Cu-Mn
CSI2H-2512R-1L00x	$\frac{0.78}{(0.031)}$	$\frac{0.43}{(0.017)}$	Cu-Mn
CSI2H-2512K-1L80x	$\frac{1.21}{(0.048)}$	$\frac{0.73}{(0.029)}$	Fe-Cr
CSI2H-2512K-2L00x	$\frac{1.09}{(0.043)}$	$\frac{0.73}{(0.029)}$	Fe-Cr
CSI2H-2512K-2L30x	$\frac{1.09}{(0.043)}$	$\frac{0.73}{(0.029)}$	Fe-Cr
CSI2H-2512K-3L00x	$\frac{0.81}{(0.032)}$	$\frac{0.45}{(0.018)}$	Fe-Cr
CSI2H-2512K-3L50x	$\frac{0.81}{(0.032)}$	$\frac{0.45}{(0.018)}$	Fe-Cr

Recommended Pad Layout



Recommended Measurements



Electrical Schematic



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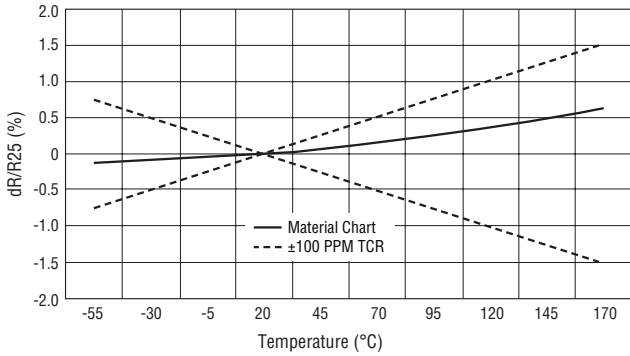
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Model CSI2H-2512 Series Current Sense Resistor

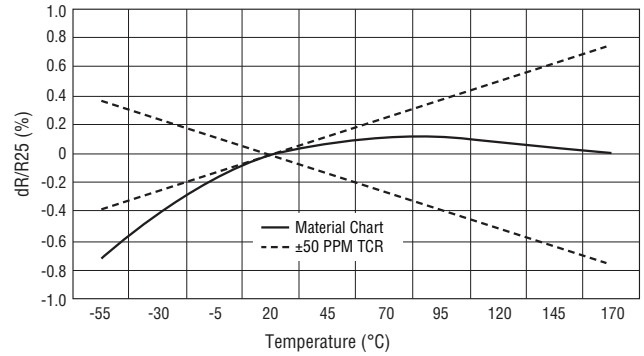


TCR Curves

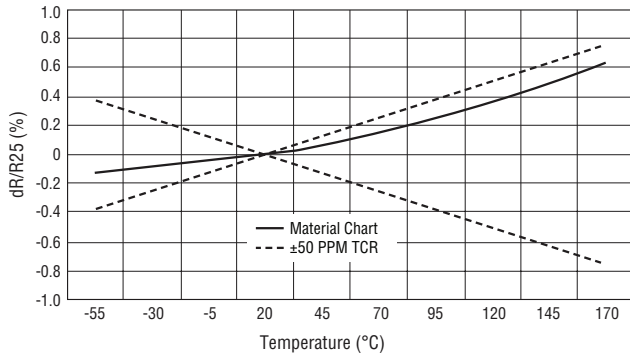
K-Type Resistive Material



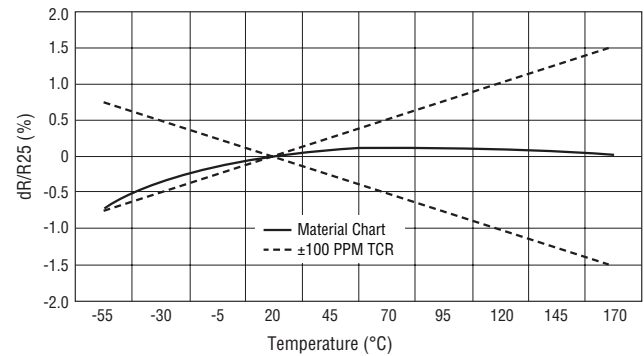
R-Type Resistive Material



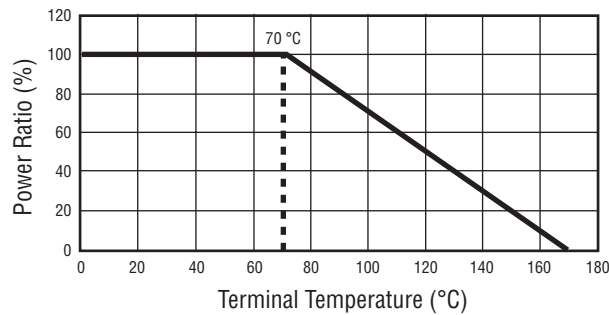
K-Type Resistive Material



R-Type Resistive Material



Terminal Temperature Derating Curve



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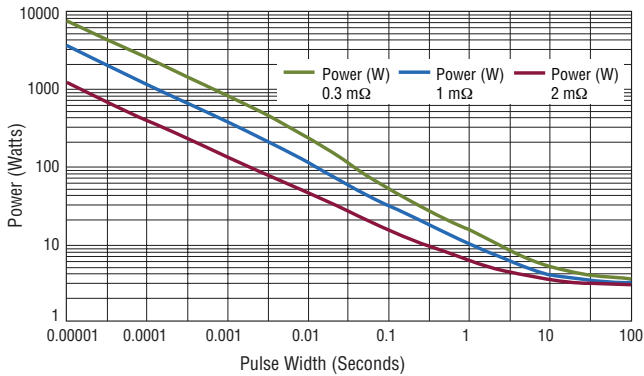
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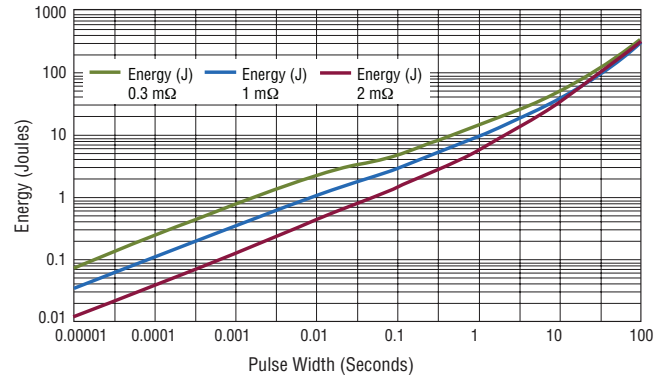
Model CSI2H-2512 Series Current Sense Resistor

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Maximum Pulse Power



Maximum Pulse Energy



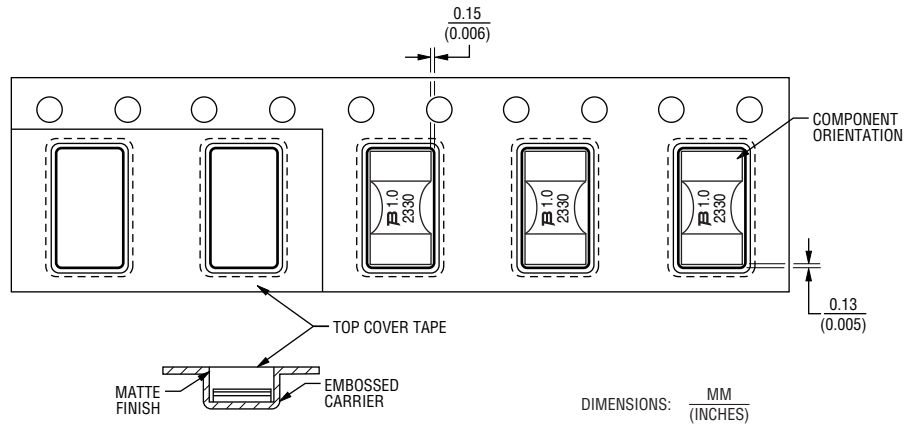
Packaging Specifications

Components packaged per EIA-481.

Standard Reel Size: 13 inches

Tape Width: 12 mm

Quantity: 3,000 pcs. per reel



BOURNS®

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