



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

Click these links for more information:



How to Order

Model CSI 2H - 2512 R - L500 J

No. of Terminals & Style _____

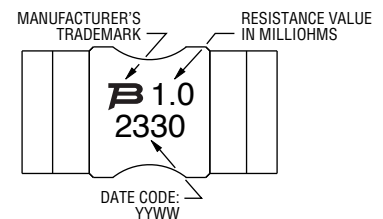
Size _____

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



WARNING Cancer and Reproductive Harm

www.P65Warnings.ca.gov

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

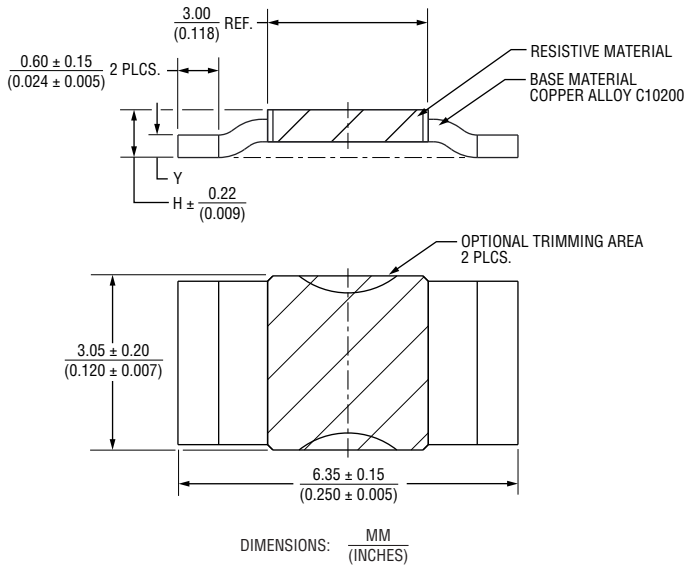
** Bourns considers a product to be "halogen free" if (a) the Bromine (Br) content is 900 ppm or less; (b) the Chlorine (Cl) content is 900 ppm or less; and (c) the total Bromine (Br) and Chlorine (Cl) content is 1500 ppm or less.

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Model CSI2H-2512 Series Current Sense Resistor

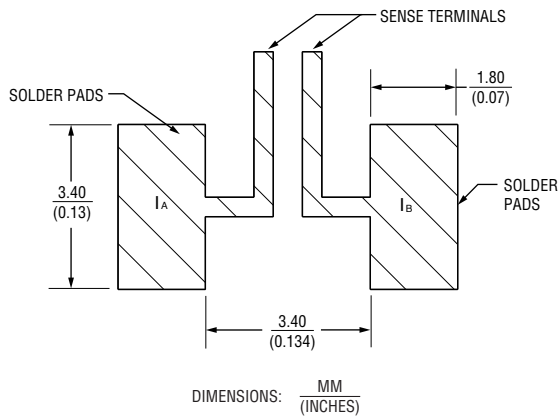
BOURNS®

Product Dimensions

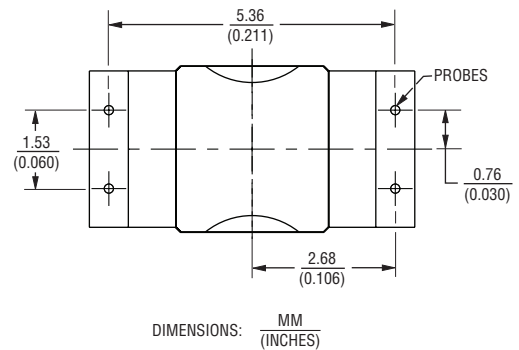


Part Number	Dimension H max.	Dimension Y max.	Alloy
CSI2H-2512C-000	$\frac{0.78}{(0.031)}$	$\frac{0.43}{(0.017)}$	Cu-Sn
CSI2H-2512R-L300x	$\frac{1.65}{(0.065)}$	$\frac{1.21}{(0.048)}$	Cu-Mn
CSI2H-2512R-L500x	$\frac{1.21}{(0.048)}$	$\frac{0.86}{(0.034)}$	Cu-Mn
CSI2H-2512R-1L00x	$\frac{0.78}{(0.031)}$	$\frac{0.43}{(0.017)}$	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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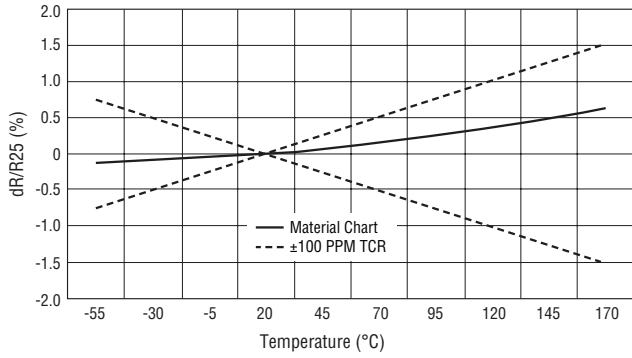
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Model CSI2H-2512 Series Current Sense Resistor

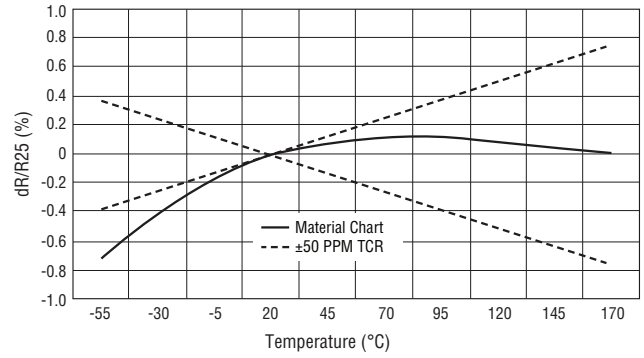


TCR Curves

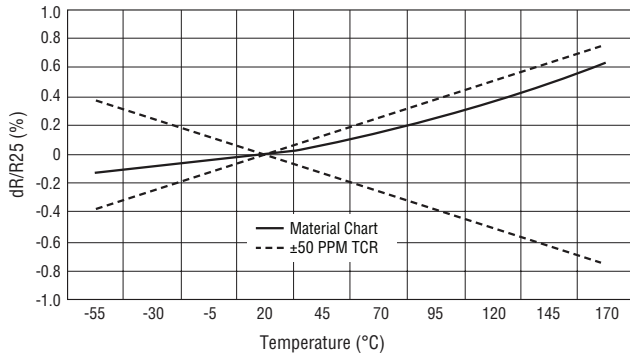
K-Type Resistive Material



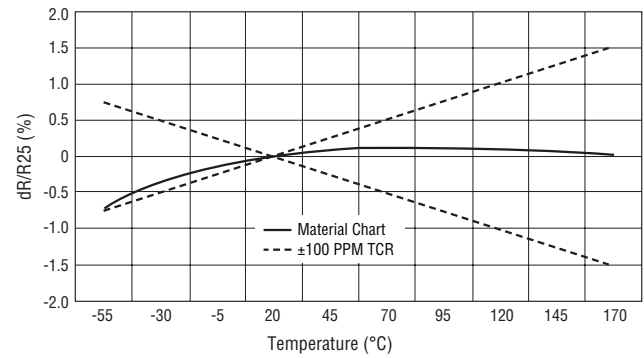
R-Type Resistive Material



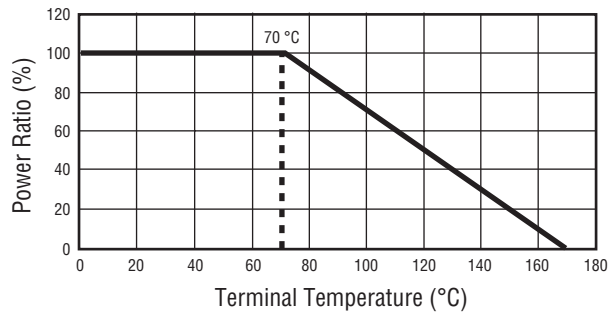
K-Type Resistive Material



R-Type Resistive Material



Terminal Temperature Derating Curve



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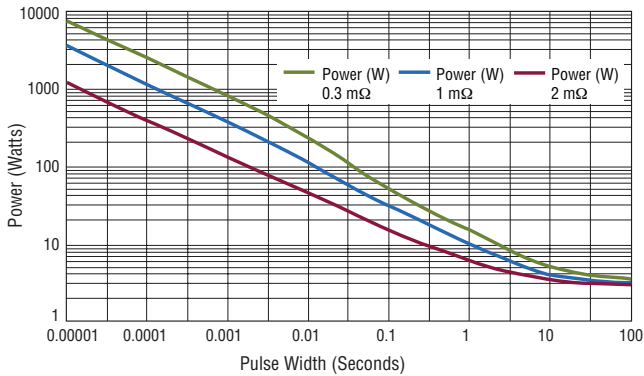
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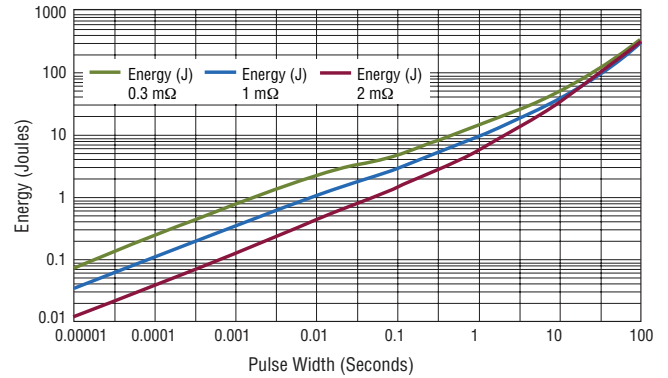
Model CSI2H-2512 Series Current Sense Resistor

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Maximum Pulse Power



Maximum Pulse Energy



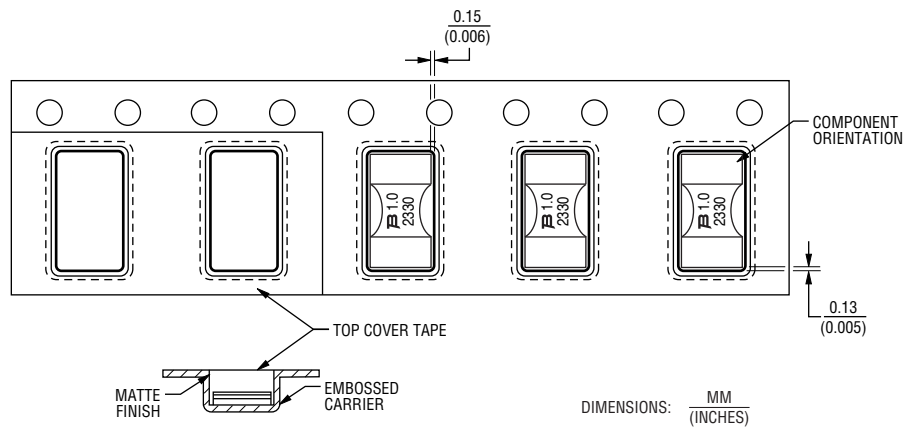
Packaging Specifications

Components packaged per EIA-481.

Standard Reel Size: 13 inches

Tape Width: 12 mm

Quantity: 3,000 pcs. per reel



BOURNS®

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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REV. 11/23

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