



Features

- Four terminal design
- Low inductance value (<1 nH)
- Metal alloy strip
- RoHS compliant* and halogen free**
- AEC-Q200 qualified, automotive grade

Applications

- Current sense
- Precision circuits
- Medical equipment***
- Printers
- Automation equipment
- Navigation equipment

Model CST0612 Current Sense Resistor

Electrical Characteristics

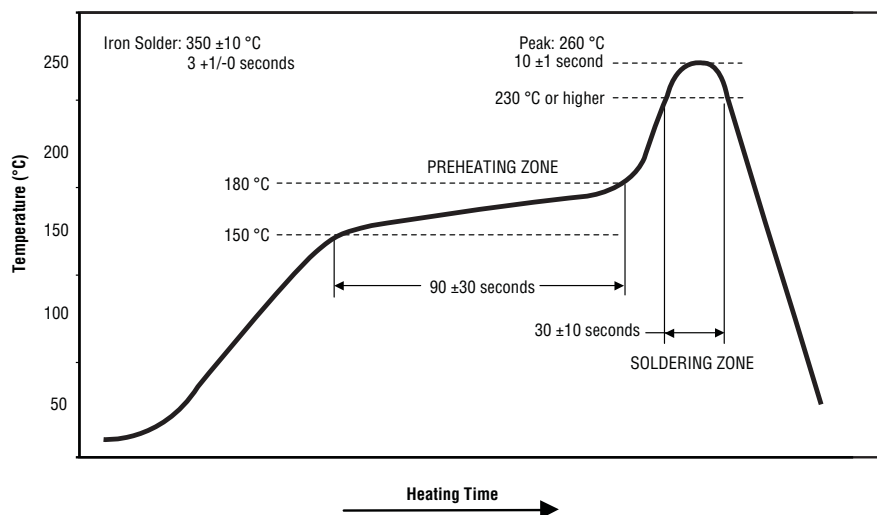
Characteristic	Model CST0612
Power Rating @ 70 °C	1 W (NOTE 1)
Resistance Range	0.5 - 2 milliohms
Operating Temperature Range	-55 °C to +170 °C
Temperature Coefficient of Resistance	±100 PPM/°C ±200 PPM/°C
Resistance Tolerance	±1 %
Insulation Resistance	> 100 megohms
Derated to Zero Load at	+170 °C
Maximum Working Voltage (V)	(P / R) ^{1/2}

(Note 1) 1 watt with total solder pad and trace size of 300 mm².

Environmental Characteristics

Specification	Model CST0612
Shelf Life	Two years from manufacturing date
Storage Conditions: Temperature Humidity	+5 °C ~ +35 °C 40 % ~ 75 %
Recommended Solder	Sn96.5 / Ag3 / Cu0.5
Material: Strip Overcoating Compound	Alloy Molding UL 94V0 Grade

Soldering Profile



Popular Resistance Table

Resistance Value (Milliohms)	Resistance Code
0.50	R0005
0.75	R00075
1.00	R001
1.50	R0015
2.00	R002

Rated Voltage

The rated voltage is calculated by the following formula:

$$V = \sqrt{P \times R}$$

V: Rated Voltage (V)
P: Rated Power (W)
R: Resistance Value (Ω)

How to Order

CST 0612 - F C - R001 E

Model _____
(CST = Current Sense Terminal Type)

Size _____
0612

Resistance Tolerance _____
F = ±1 %

TCR (See Electrical Characteristics chart)
X = ±100 PPM/°C
C = ±200 PPM/°C

Resistance Code _____
See Popular Resistance Table

Packaging Code (NOTE 2) _____
E = Embossed Tape (4,000 pcs. per 7" reel)

(NOTE 2) Part Number CST0612-FC-R0005-E requires a hyphen before the Packaging Code.

BOURNS®

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www.bourns.com

* RoHS Directive 2002/95/EC Jan. 27, 2003 including annex and RoHS Recast 2011/65/EU June 8, 2011.

** 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.

*** Bourns® products have not been specifically designed and tested for FDA Class III applications and their use in such applications is neither recommended nor supported. Specifications are subject to change without notice.

The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time. Users should verify actual device performance in their specific applications.

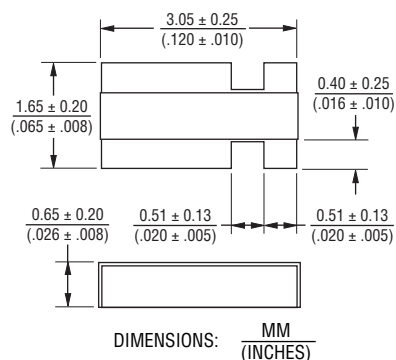
Model CST0612 Current Sense Resistor

BOURNS®

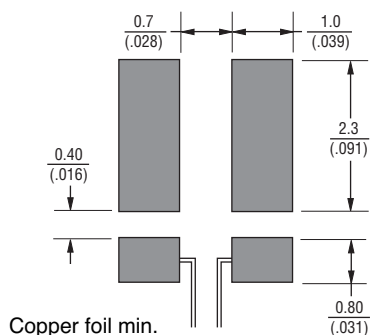
Reliability Tests

Test Item	Reference Standard	Test Conditions	Test Limits
Temperature Coefficient of Resistance	IEC 60115-1-4.8 JIS-C5201-4.8	+25 °C ~ +125 °C	Refer 4.0
Load Life	IEC 60115-1-4.25.1 JIS-C5201-4.25.1	1000 hours at rated power, 70 °C, 1.5 hours "ON", 0.5 hours "OFF"	< ±2 %
Short Time Overload	IEC 60115-1-4.13 JIS-C5201-4.13	5 times rated power for 10 seconds	< ±0.5 %
Moisture No Load	IEC60115-1-4.24.2.1a JIS-C5201-4.24.2.1a	85 °C, 85 %RH, 1000 hours	< ±0.5 %
Temperature Cycle	IEC60115-1-4.19 JIS-C5201-4.19	-55 °C and +155 °C, 300 cycles, 15 minutes per extreme condition	< ±0.5 %
Resistance to Soldering Heat	IEC60115-1-4.18 JIS-C5201-4.18	260 ° ±5 °C for 10 ±1 seconds, 2 cycles	< ±0.5 %
Solderability	IEC60115-1-4.17 JIS-C5201-4.17	245 ±5 °C, 2 ±0.5 seconds	At least 95 % of surface area of electrode shall be covered with new solder
High Temperature Exposure	IEC60115-1-4.23.2 JIS-C5201-4.23.2	170 °C, 1000 hours	< ±2 %
Low Temperature Storage	IEC60115-1-4.23.4 JIS-C5201-4.23.4	-55 °C, 1000 hours	< ±0.5 %
Substrate Bending	IEC60115-1-4.33 JIS-C5201-4.33	2 mm bending width	< ±0.5 %
Insulation Resistance	IEC60115-1-4.6 JIS-C5201-4.6	100 V DC for 1 minute	> 100 megohms

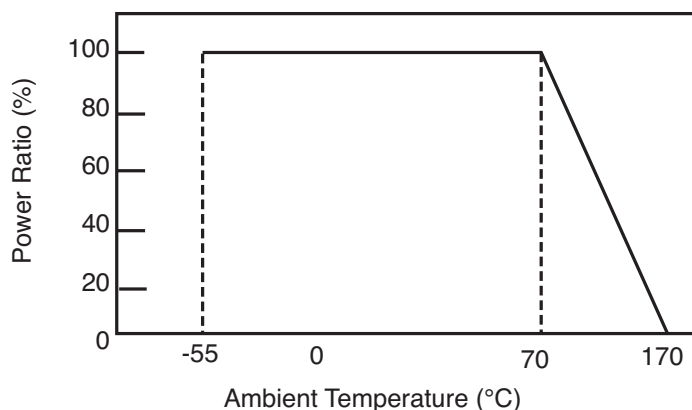
Product Dimensions



Recommended Solder Pad Layout



Derating Curve



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Technical drawing of a 10-hole punch tape. The drawing shows the top and side views of the tape, which is 10 holes long. The dimensions are given in inches and mils (in parentheses).

Top View Dimensions:

- Overall length: $1.50 \pm 0.10 / -0$ (0.059 + 0.004 / -0) DIA.
- Distance from left edge to first hole center: 0.22 ± 0.05 (0.008 ± 0.002)
- Distance between hole centers: 0.360 ± 0.20 (0.142 ± 0.008)
- Distance from last hole center to right edge: 0.400 ± 0.10 (0.157 ± 0.004)
- Distance from left edge to first hole center (alternative): 1.04 ± 0.10 (0.041 ± 0.004)
- Distance from first hole center to second hole center: 3.40 ± 0.10 (0.134 ± 0.004)
- Distance from second hole center to third hole center: 4.00 ± 0.10 (0.157 ± 0.004)
- Distance from third hole center to fourth hole center: 2.0 ± 0.05 (0.079 ± 0.002)
- Distance from fourth hole center to fifth hole center: 4.00 ± 0.05 (0.157 ± 0.002)
- Distance from fifth hole center to sixth hole center: 6.9 ± 0.2 (0.272 ± 0.008)
- Distance from sixth hole center to seventh hole center: 8.00 ± 0.10 (0.315 ± 0.004)
- Distance from seventh hole center to eighth hole center: 1.75 ± 0.10 (0.069 ± 0.004)
- Distance from eighth hole center to ninth hole center: 3.50 ± 0.05 (0.138 ± 0.002)
- Distance from ninth hole center to tenth hole center: 1.5 (0.059) DIA. MIN.

Side View Dimensions:

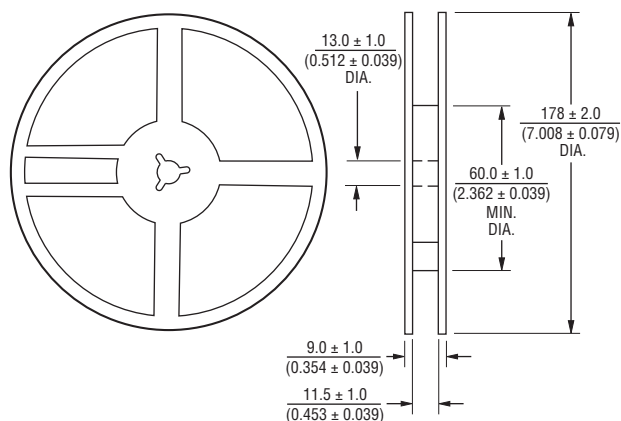
- Overall thickness: 0.069 ± 0.004 (0.138 ± 0.002)
- Distance from top edge to first hole center: 0.22 ± 0.05 (0.008 ± 0.002)
- Distance from top edge to first hole center (alternative): 1.04 ± 0.10 (0.041 ± 0.004)
- Distance from top edge to first hole center (alternative): 3.40 ± 0.10 (0.134 ± 0.004)
- Distance from top edge to first hole center (alternative): 4.00 ± 0.10 (0.157 ± 0.004)
- Distance from top edge to first hole center (alternative): 2.0 ± 0.05 (0.079 ± 0.002)
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- Distance from top edge to first hole center (alternative): 3.50 ± 0.05 (0.138 ± 0.002)
- Distance from top edge to first hole center (alternative): 1.5 (0.059) DIA. MIN.

Other Dimensions:

- Angle: 5°
- Angle: 8°

USER DIRECTION OF FEED

4,000 PIECES PER REEL



DIMENSIONS: $\frac{\text{MM}}{(\text{INCHES})}$

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<http://moschip.ru/get-element>

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