



**BOURNS®**

## Features

- Tinned terminals
- Up to 36 W permanent power
- High pulse power rating
- Maximum fastening torque: 10 Nm
- Customized versions available
- AEC-Q200 and RoHS\* compliant

## Applications

- Current sensing for battery management systems
- Current sensing in bus bars
- Current sensing in welding equipment
- Frequency converters

## Model CSM2F-8518 Series Current Sense Resistor w/Tinned Terminals

### Electrical Characteristics

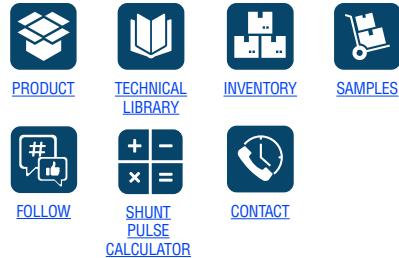
Characteristic	Model CSM2F-8518 Series
Resistance Range / Power Rating @ 70 °C**	50 $\mu\Omega$ / 36 W 100 $\mu\Omega$ / 36 W
Operating Temperature Range	-40 °C to +170 °C
TCR on Test Points	$\pm 150$ ppm/°C for 50 $\mu\Omega$ $\pm 125$ ppm/°C for 100 $\mu\Omega$
TCR Resistance Alloy***	< 50 ppm/°C
Thermal EMF ( $\mu\text{V/K}$ )	< 0.25 for 50 $\mu\Omega$ < 1.50 for 100 $\mu\Omega$
Resistance Tolerance	$\pm 5$ %

\*\* Terminal temperature

\*\*\* For full TCR range, refer to TCR curve.

### Additional Information

Click these links for more information:



### Environmental Characteristics

Characteristic	Test Condition	$\Delta\text{TR Max.}$
Thermal Shock	-55 to +150 °C / 1000 cycles	$\pm 1$ %
Resistance to Soldering Heat	+260 °C / 10 seconds	$\pm 0.5$ %
High Temperature Exposure	+170 °C / 1000 hours	$\pm 1.5$ %
Low Temperature Storage	-65 °C / 24 hours	$\pm 0.5$ %
Biased Humidity Test	+85 °C, 85 % RH, 10 % bias, 1000 hours	$\pm 0.5$ %
Mechanical Shock	100 g, 6 milliseconds, 5 pulses	$\pm 0.5$ %
Vibration, High Frequency	10-2000 Hz in 1 minute, 3 directions, 12 hours	$\pm 0.5$ %
Load Life	1000 hours, derated at 70 °C	$\pm 1$ %
Solderability	J-STD-002	95 % coverage min.

### How to Order

Model \_\_\_\_\_

No. of Terminals & Style \_\_\_\_\_

Size (Metric) \_\_\_\_\_

Resistance Code (Milliohms) \_\_\_\_\_

"L" Represents Decimal Point

L050 = 50 MicroOhms

L100 = 100 MicroOhms

Resistance Tolerance \_\_\_\_\_

J =  $\pm 5$  %

Packaging \_\_\_\_\_

0 = Bulk Pack (50 pcs. per bag)

T = Tray Pack (32 pcs. per tray)

Surface Finishing \_\_\_\_\_

1 = Tinned Terminals

**CSM 2F - 8518 - L050 J 0 1**

\* RoHS Directive 2015/863, Mar 31, 2015 and Annex. Specifications are subject to change without notice.

Users should verify actual device performance in their specific applications.

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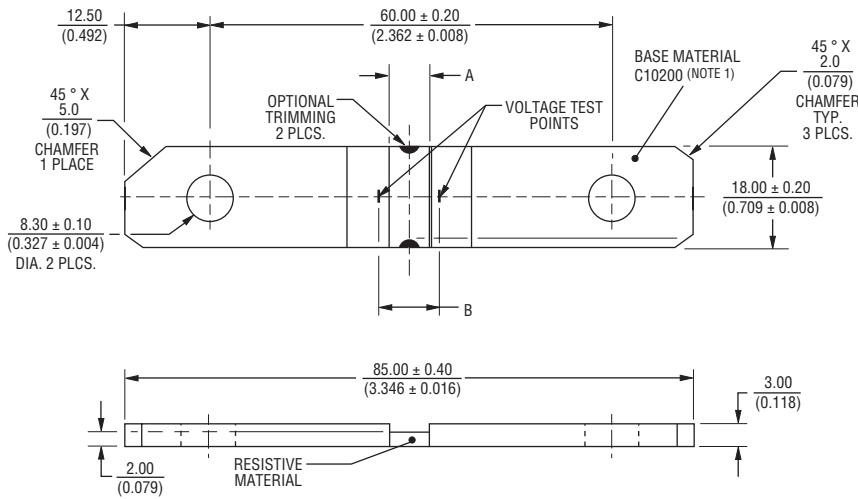


**CALIFORNIA WARNING:** Can expose you to lead, a carcinogen and reproductive toxicant. See [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

## Model CSM2F-8518 Series Current Sense Resistor w/Tinned Terminals

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### Product Dimensions



#### NOTES:

1. Tinned Terminals: 100 % Sn, RoHS Complaint, JESD201 Class-2, ST200 Process, 2.5 -8 micrometers, Ni underplate 1.5- 4 micrometers.
2. Base Material Copper: C10200 Temper 1/2 Hard.

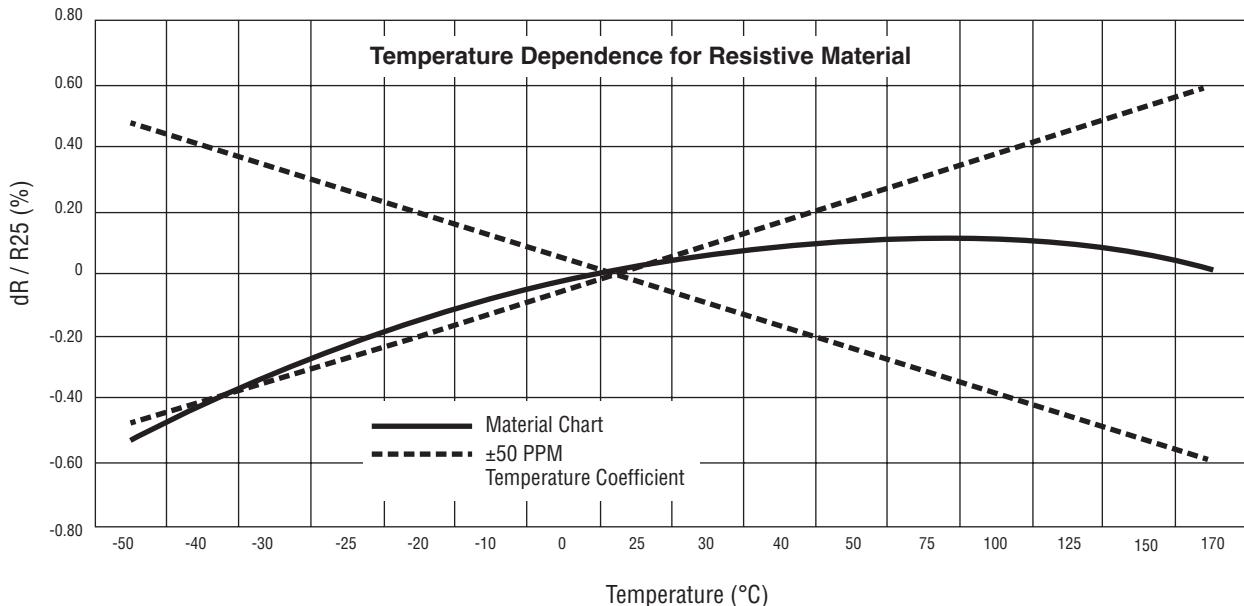
Part Number	Dim A	Dim B
CSM2F-8518-L050Jxx	4.70 (.185)	7.87 (.310)
CSM2F-8518-L100Jxx	9.40 (.370)	12.57 (.495)

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

TOLERANCES:  $\frac{0.25}{(.010)}$

UNLESS OTHERWISE NOTED

### TCR Curves



Specifications are subject to change without notice.

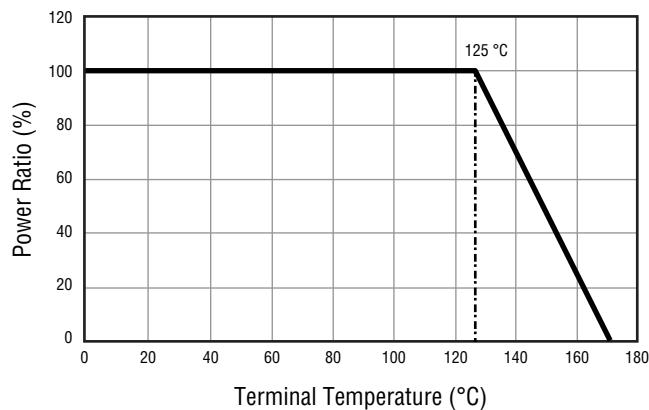
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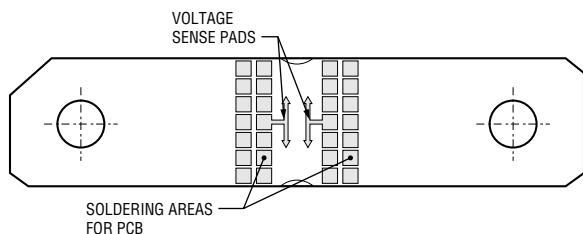
## Model CSM2F-8518 Series Current Sense Resistor w/Tinned Terminals

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### Power Derating Curve



### Reference Pad for SMD Mounting



### General Specifications

Moisture Sensitivity Level ..... 1  
ESD Classification ..... Level 6  
per AEC-Q200-002,  
≥ 25,000 V air discharge

### Packaging Specifications

Bulk Pack ..... 50 pcs. per plastic bag  
100 pcs. per box  
Tray Pack ..... 32 pcs. per high impact polystyrene tray  
224 pcs. per box  
Size ..... 246 mm x 246 mm (9.685 in. x 9.685 in.)

**BOURNS®**

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