

## Features

- Bare copper terminals
- Up to 36 W permanent power
- High pulse power rating
- Maximum fastening torque: 10 Nm
- AEC-Q200 compliant
- RoHS compliant\* / lead free
- Customized versions available

## Applications

- Battery management systems
- Current sensing for hybrid and electric vehicles
- Current sensing in bus bars
- Current sensing in welding equipment
- Frequency converters

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

### Electrical Characteristics

Characteristic	Model CSM2F-8518 Series
Resistance Range / Power Rating @ 70 °C**	50 $\mu\Omega$ / 36 W 100 $\mu\Omega$ / 36 W 200 $\mu\Omega$ / 36 W
Operating Temperature Range	-40 °C ~ +170 °C
TCR on Test Points (+20 °C to +130 °C)	$\pm 100$ ppm/°C for 50 $\mu\Omega$ $\pm 50$ ppm/°C for 100 $\mu\Omega$ and 200 $\mu\Omega$
TCR Resistance Alloy***	< 50 ppm/°C
Inductance	< 5 nH
Resistance Tolerance	$\pm 5$ %

\*\* Terminal temperature

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

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### Environmental Characteristics

Characteristic	Test Condition	$\Delta$ TR Max.
Thermal Shock	-55 °C to +150 °C / 1000 cycles	$\pm 0.5$ %
High Temperature Exposure	+170 °C / 1000 hours	$\pm 1.0$ %
Low Temperature Storage	-65 °C / 1000 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	+125 °C / 2000 hours at maximum $\mu$ current rating	$\pm 1.0$ %
Solderability*	J-STD-002	95 % coverage min.

\* Limited to dipping terminals

### How to Order

CSM 2F - 8518 - L050 J 0 0

Model \_\_\_\_\_

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

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

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

“L” Represents Decimal Point  
L050 = 50 MicroOhms  
L050 = 50 MicroOhms  
L050 = 50 MicroOhms

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

J =  $\pm 5$  %

Packaging \_\_\_\_\_

0 = Bulk Pack (50 pcs. per bag)  
T = Tray Pack (30 pcs. per tray)

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

0 = Bare Copper Terminals



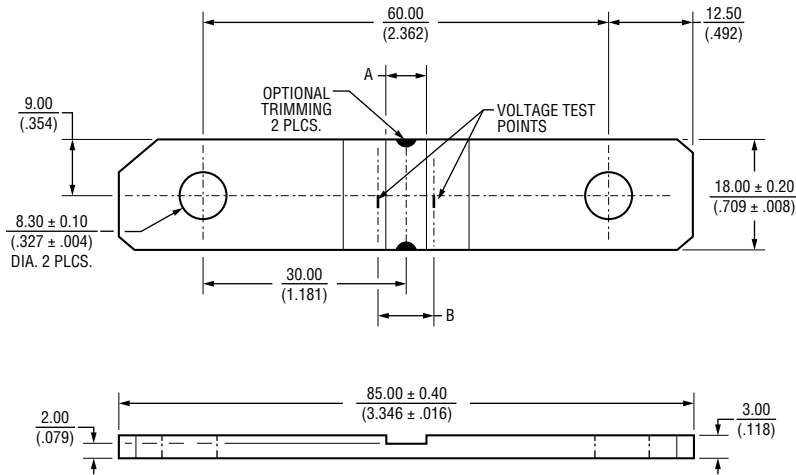
**CALIFORNIA WARNING:** Can expose you to lead, a carcinogen and reproductive toxicant. See [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

\* 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. The products described herein and this document are subject to specific legal disclaimers as set forth on the last page of this document, and at [www.bourns.com/docs/legal/disclaimer.pdf](http://www.bourns.com/docs/legal/disclaimer.pdf).

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



## Product Dimensions



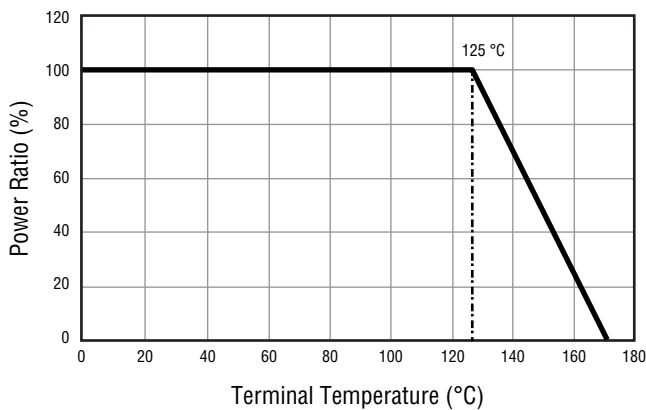
Part Number	Dim A	Dim B
CSM2F-8518-L050J00	4.70 (.185)	7.87 (.310)
CSM2F-8518-L100J00	9.40 (.370)	12.57 (.495)
CSM2F-8518-L200J00	20.0 (.787)	23.18 (.990)

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

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

UNLESS OTHERWISE NOTED

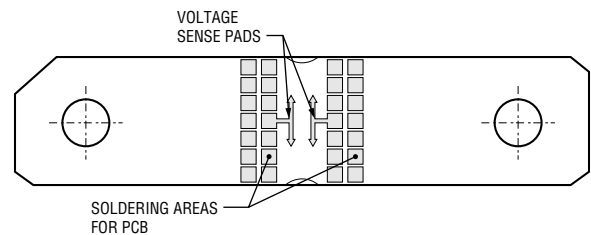
## Power Derating Curve



## General Specifications

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

## Reference Pad for SMD Mounting



## Packaging Specifications

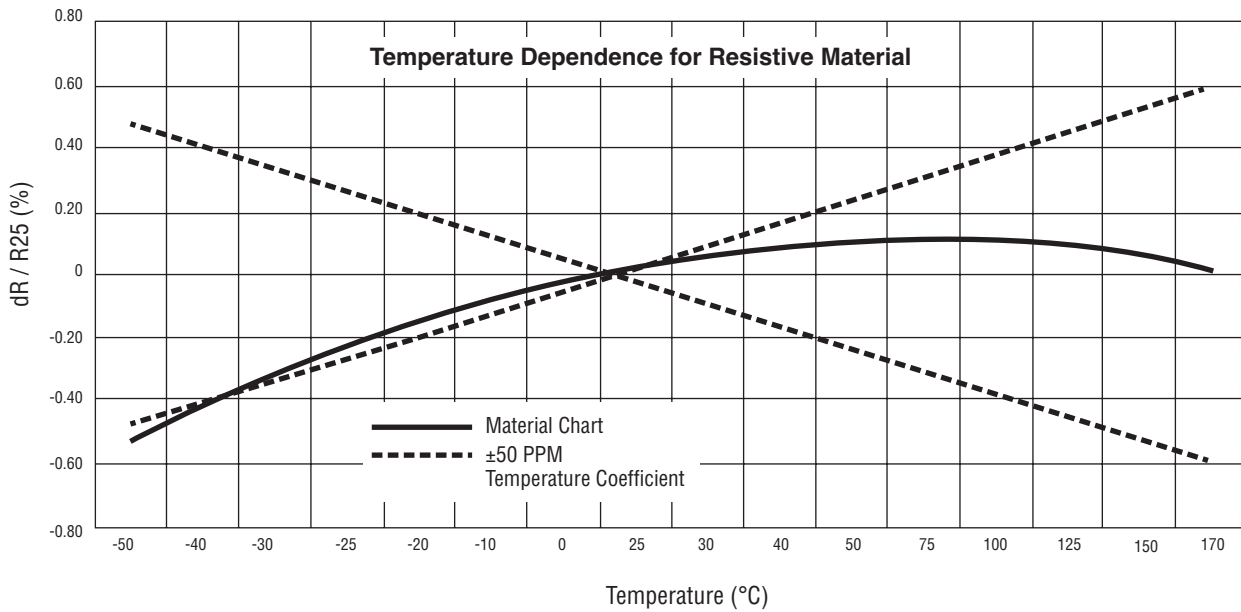
Bulk Pack.....50 pcs. per plastic bag  
 100 pcs. per box  
 Tray Pack .....32 pcs. per high impact polystyrene tray  
 224 pcs. per box  
 Size.....246 mm x 246 mm (9.685 in. x 9.685 in.)

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Users should verify actual device performance in their specific applications.

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TCR Curves



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