

Features

- Fully tinned terminals and resistive element
- 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 / Fully Tinned

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) | ± 200 ppm/°C for 50 $\mu\Omega$ ± 150 ppm/°C for 100 $\mu\Omega$ and 200 $\mu\Omega$ |
| TCR Resistance Alloy*** | < 50 ppm/°C |
| Inductance | < 12 nH |
| Resistance Tolerance | ± 5 % |

** Terminal temperature

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

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Environmental Characteristics

| Characteristic | Test Condition | Δ TR Max. |
|---------------------------|--|--------------------|
| Thermal Shock | -55 °C to +150 °C / 1000 cycles | ± 0.5 % |
| High Temperature Exposure | +170 °C / 1000 hours | ± 1.0 % |
| Low Temperature Storage | -65 °C / 24 hours | ± 0.5 % |
| Biased Humidity Test | +85 °C, 85 % RH, 10 % bias, 1000 hours | ± 0.5 % |
| Mechanical Shock | 100 g, 6 milliseconds, 5 pulses | ± 0.5 % |
| Vibration, High Frequency | 10-2000 Hz in 1 minute, 3 directions, 12 hours | ± 0.5 % |
| Load Life | +125 °C / 2000 hours at maximum current rating | ± 1.0 % |
| Solderability* | J-STD-002 | 95 % coverage min. |
| ESD | 25 KV \pm polarity | ± 0.5 % |

* Limited to dipping terminals

How to Order

CSM 2F - 8518 - L050 J 0 2

Model _____

No. of Terminals & Style _____

Size (Metric) _____

Resistance Code (Milliohms) _____

"L" Represents Decimal Point
L050 = 50 MicroOhms
L100 = 100 MicroOhms
L200 = 200 MicroOhms

Resistance Tolerance _____
J = ± 5 %

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

Surface Finishing _____
2 = Fully Tinned Terminals and Resistive Element

* 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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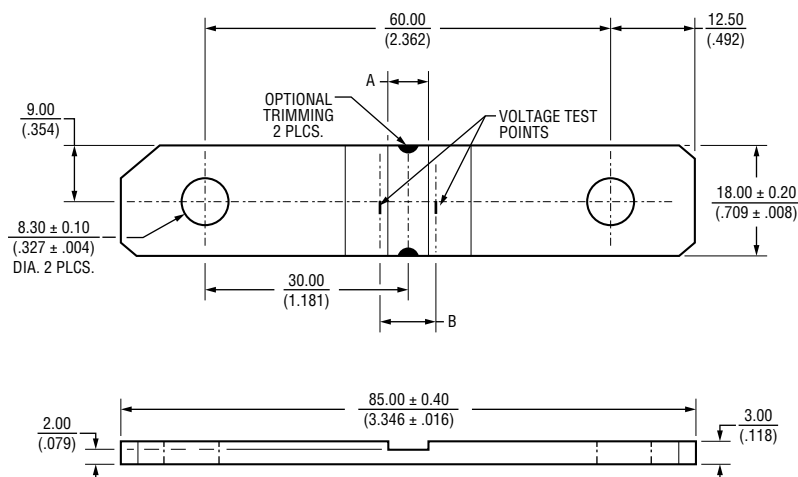


CALIFORNIA WARNING: Can expose you to lead, a carcinogen and reproductive toxicant. See www.P65Warnings.ca.gov

Model CSM2F-8518 Series Current Sense Resistor / Fully Tinned

BOURNS®

Product Dimensions



| Part Number | Dim A | Dim B |
|--------------------|----------------|-----------------|
| CSM2F-8518-L050J02 | 4.70 (.185) | 7.87 (.310) |
| CSM2F-8518-L100J02 | 9.40 (.370) | 12.57 (.495) |
| CSM2F-8518-L200J02 | 20.0 (.787) | 23.18 (.990) |

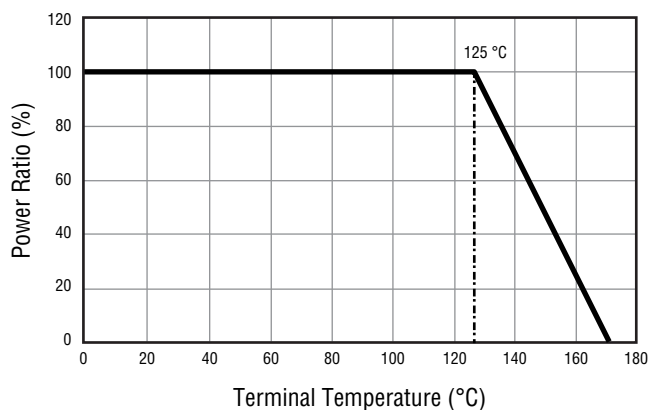
Note: Fully plated with nickel barrier and 100% Sn.

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

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

UNLESS OTHERWISE NOTED

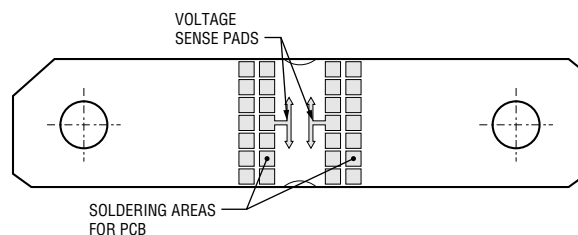
Power Derating Curve



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

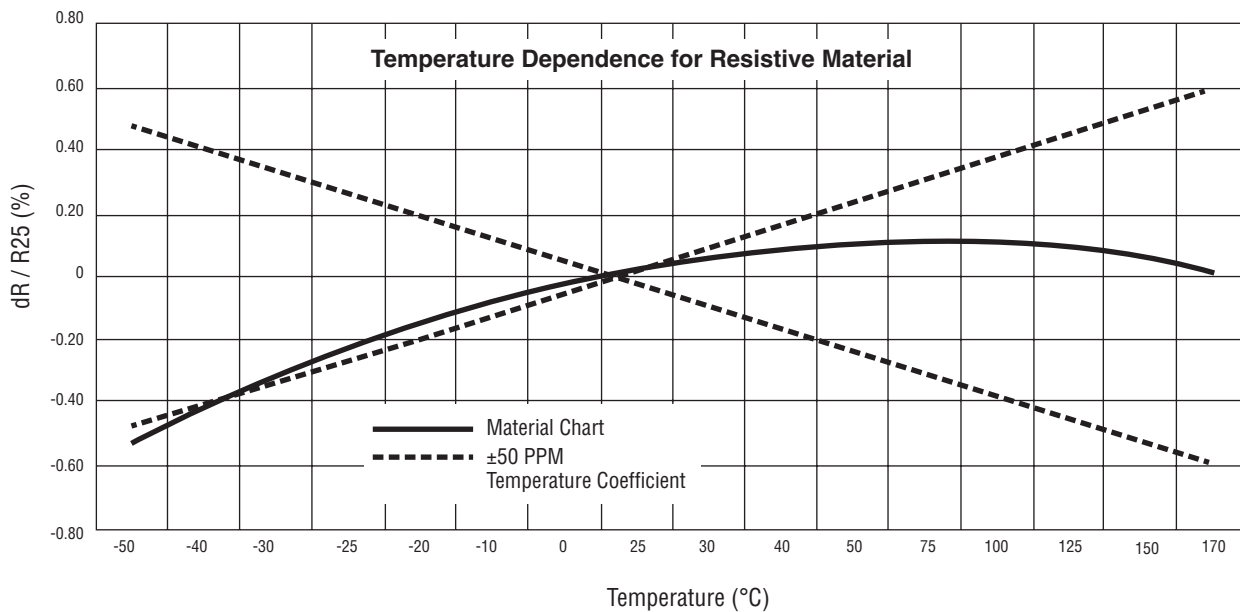
Bulk Pack..... 50 pcs. per plastic bag
 100 pcs. per box
 Tray Pack 32 pcs. per high impact polystyrene tray
 224 pcs. per box
 Size..... 246 mm x 246 mm (9.685 in. x 9.685 in.)

Specifications are subject to change without notice.

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TCR Curves

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