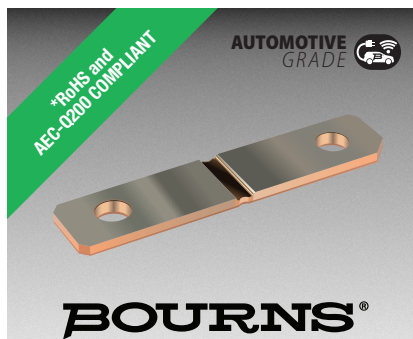




Features

- 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	± 150 ppm/°C for 50 $\mu\Omega$ ± 125 ppm/°C for 100 $\mu\Omega$
TCR Resistance Alloy***	< 50 ppm/°C
Thermal EMF (μ V/K)	< 0.25 for 50 $\mu\Omega$ < 1.50 for 100 $\mu\Omega$
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 to +150 °C / 1000 cycles	± 1.0 %
Resistance to Soldering Heat	+260 °C / 10 seconds	± 0.5 %
High Temperature Exposure	+170 °C / 1000 hours	± 1.5 %
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	1000 hours, derated at 70 °C	± 1.0 %
Solderability	J-STD-002	95 % coverage min.

How to Order

CSM 2F - 8518 - L050 J 0 1

Model _____

No. of Terminals & Style _____

Size (Metric) _____

Resistance Code (Milliohms) _____

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

Resistance Tolerance _____
J = ± 5 %

Packaging _____
0 = Bulk Pack (50 pcs. per bag)
T = Tray Pack (32 pcs. per tray)

Surface Finishing _____
1 = Tinned Terminals



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

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Technical drawing of a resistor assembly, showing top and side views with dimensions and callouts.

Top View Dimensions:

- Left Chamfer: $45^\circ \times 5.0$ (0.197) CHAMFER 1 PLACE
- Left Hole: 8.30 ± 0.10 (0.327 $\pm$ 0.004) DIA. 2 PLCS.
- Overall Length: 60.00 ± 0.20 (2.362 $\pm$ 0.008)
- Right Chamfer: $45^\circ \times 2.0$ (0.079) CHAMFER TYP. 3 PLCS.
- Right Hole: 18.00 ± 0.20 (0.709 $\pm$ 0.008)
- Base Material: BASE MATERIAL C10200 (NOTE 1)
- Voltage Test Points: VOLTAGE TEST POINTS
- Optional Trimming: OPTIONAL TRIMMING 2 PLCS.
- Dimensions A and B indicate specific locations on the resistor body.

Side View Dimensions:

- Overall Length: 85.00 ± 0.40 (3.346 $\pm$ 0.016)
- Left Thickness: 2.00 (0.079)
- Right Thickness: 3.00 (0.118)
- Resistive Material: RESISTIVE MATERIAL

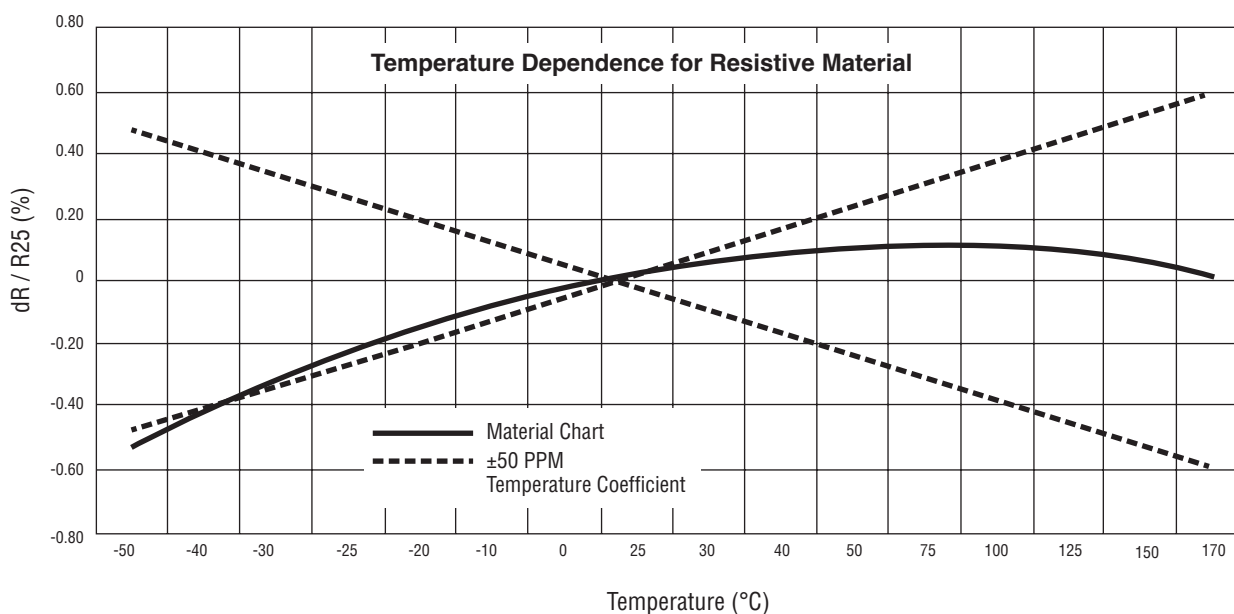
1. Tinned Terminals: 100 % Sn, RoHS Complaint, JESD201 Class-2, ST200 Process, 2.5 -8 micrometers, NI underplate 1.5- 4 micrometers.
2. Base Material Copper: C10200 Temper 1/2 Hard.

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

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

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

TCR Curves



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A line graph showing the relationship between Power Ratio (%) and Terminal Temperature (°C) for a 100% power ratio. The y-axis ranges from 0 to 120 in increments of 20. The x-axis ranges from 0 to 180 in increments of 20. The graph shows a horizontal line at 100% power ratio from 0°C to 125°C. At 125°C, the power ratio begins to decrease linearly, reaching 0% at approximately 175°C. A vertical dashed line marks the transition at 125°C.

Terminal Temperature (°C)	Power Ratio (%)
0	100
125	100
175	0

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.)

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

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