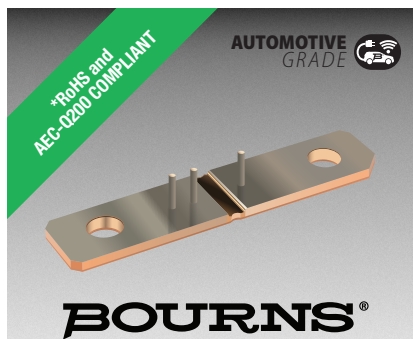




Features

- Up to 36 W permanent power
- High pulse power rating
- Maximum fastening torque: 25 Nm
- Customized versions available
- RoHS compliant* / lead free
- AEC-Q200 compliant

Applications

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

CSM2F-8518 Series – Shunt Resistor with Sense Pins & Tinned Terminals

Electrical Characteristics

Characteristic	Model CSM2F-8518 with Sense Pins
Resistance Range / Power Rating @ 125 °C**	50 $\mu\Omega$ / 36 W 100 $\mu\Omega$ / 36 W
Operating Temperature Range	-40 °C ~ +170 °C
TCR on Test Points (+20 °C to +130 °C)	± 150 ppm/°C for 50 $\mu\Omega$ and 100 $\mu\Omega$
TCR Resistance Alloy***	< 50 ppm/°C
Inductance	< 5 nH
Resistance Tolerance	± 5 %

** Terminal temperature

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

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Environmental Characteristics

Characteristic	Test Condition	ΔTR 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 / 1000 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.

* Limited to dipping terminals.

How to Order

CSM 2F - 8518 - L050 J 2 1

Model _____

No. of Terminals & Style _____

Size (Metric) _____

Resistance Code (Milliohms) _____

"L" Represents Decimal Point
L050 = 50 MicroOhms

Resistance Tolerance _____

J = ± 5 %

Number of Pins _____

2 or 3

Surface Finishing _____

1 = Tinned Terminals
Plated Sense Pins



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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BOURNS®

Technical drawing of a mechanical part, showing front and side views with dimensions in inches and millimeters.

Front View Dimensions:

- Overall length: 12.50 (317.5) / 60.00 (1524.0)
- Distance from left end to center of first hole: 9.00 (228.6)
- Distance between centers of two holes: 42.50 ± 0.20 (1066.8 ± 5.1)
- Distance from center of second hole to right end: 18.00 ± 0.20 (457.0 ± 5.1)
- Hole diameter: 8.30 ± 0.10 (210.8 ± 2.5) DIA. 2 PLCS.
- Distance from center of hole to end of part: 1.00 ± 0.10 (25.4 ± 2.5) DIA. 3 PLCS.
- Optional trimming: 2 PLCS.
- Dimensions A and B are indicated for the central section.

Side View Dimensions:

- Overall width: 8.00 ± 0.20 (203.2 ± 5.1)
- Distance from left end to center of first hole: 2.00 (50.8)
- Distance between centers of two holes: 85.00 ± 0.40 (2158.8 ± 10.2)
- Distance from center of second hole to right end: 3.00 (76.2)

Part Number	Dim A	Dim B	Dim C
CSM2F-8518-L050J21	$\frac{4.70}{(.185)}$	$\frac{7.80}{(.307)}$	—
CSM2F-8518-L100J21	$\frac{9.40}{(.370)}$	$\frac{12.50}{(.492)}$	—
CSM2F-8518-L050J31	$\frac{4.70}{(.185)}$	$\frac{7.80}{(.307)}$	$\frac{5.59}{(.220)}$
CSM2F-8518-L100J31	$\frac{9.40}{(.370)}$	$\frac{12.50}{(.492)}$	$\frac{5.59}{(.220)}$

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

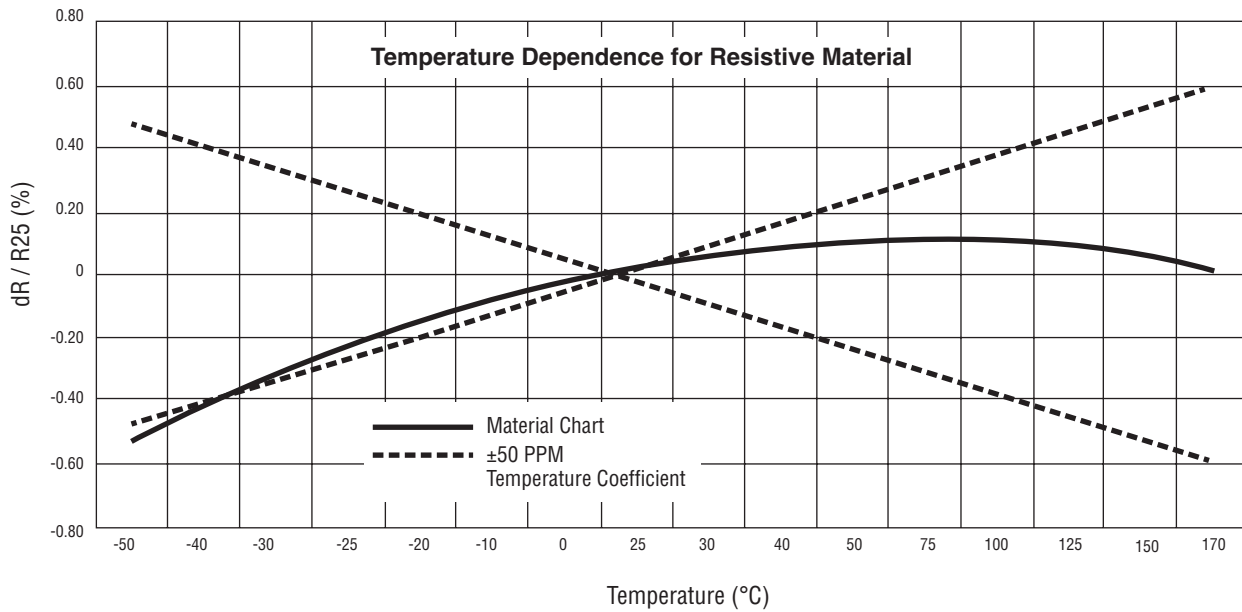
The graph shows the power ratio as a function of terminal temperature. The y-axis is labeled 'Power Ratio (%)' and ranges from 0 to 120. The x-axis is labeled 'Terminal Temperature (°C)' and ranges from 0 to 180. A solid black line represents the power ratio, which is constant at 100% from 0°C to 125°C. At 125°C, the power ratio begins to decrease linearly, reaching 0% at 175°C. A vertical dashed line marks the transition point at 125°C, which is labeled '125 °C'.

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

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

Tray Pack 24 pcs. per high impact polysterene tray
168 pcs. per box
Size..... 460 mm x 320 mm (18.110 in. x 12.598 in.)

TCR Curves



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