



BOURNS®

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

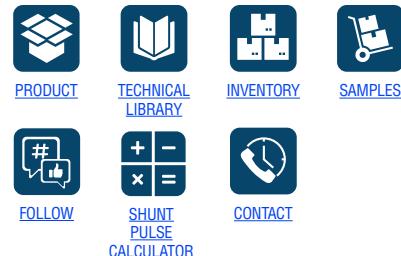
Characteristic	Model CSM2F-8518 Series
Resistance Range / Power Rating @ 70 °C**	50 $\mu\Omega$ / 36 W 100 $\mu\Omega$ / 36 W 200 $\mu\Omega$ / 36 W
Operating Temperature Range	-40 °C ~ +170 °C
TCR on Test Points (+20 °C to +130 °C)	±200 ppm/°C for 50 $\mu\Omega$ ±150 ppm/°C for 100 $\mu\Omega$ and 200 $\mu\Omega$
TCR Resistance Alloy***	< 50 ppm/°C
Inductance	< 12 nH
Resistance Tolerance	±5 %

** Terminal temperature

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

Additional Information

Click these links for more information:



Environmental Characteristics

Characteristic	Test Condition	$\Delta\text{TR Max.}$
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 ± polarity	±0.5 %

* Limited to dipping terminals

How to Order

Model	CSM 2F - 8518 - L050 J 0 2		
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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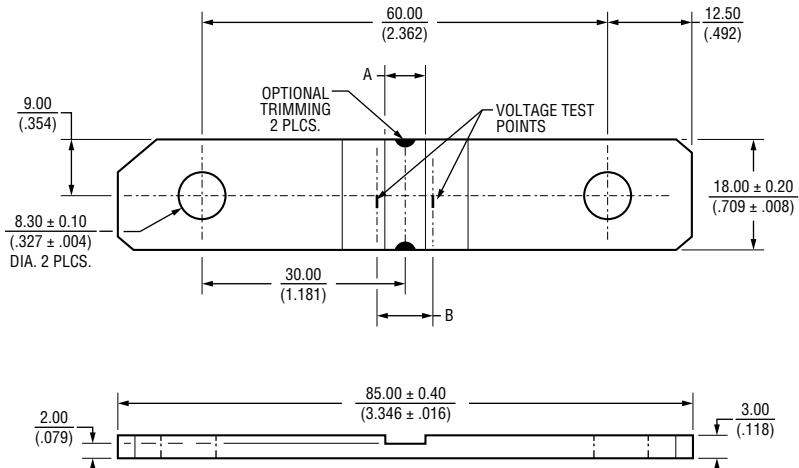


CALIFORNIA WARNING: Can expose you to lead, a carcinogen and reproductive toxicant. See www.P65Warnings.ca.gov

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)

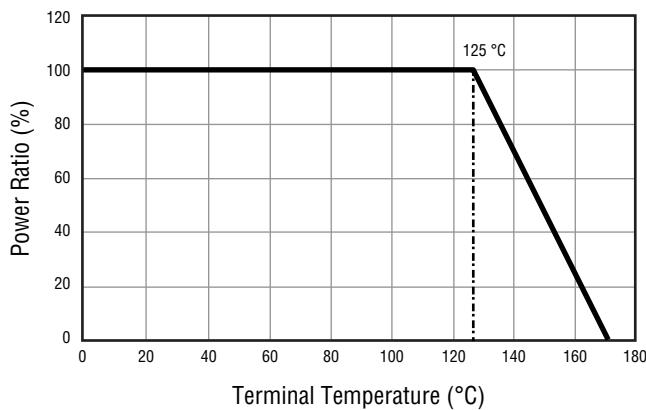
Note: Fully plated with nickel barrier and 100% Sn.

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

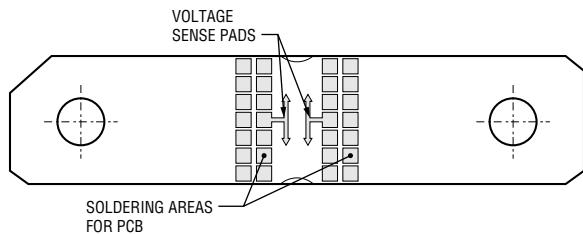
TOLERANCES: $\frac{0.25}{(.010)}$

UNLESS OTHERWISE NOTED

Power Derating Curve



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.)

General Specifications

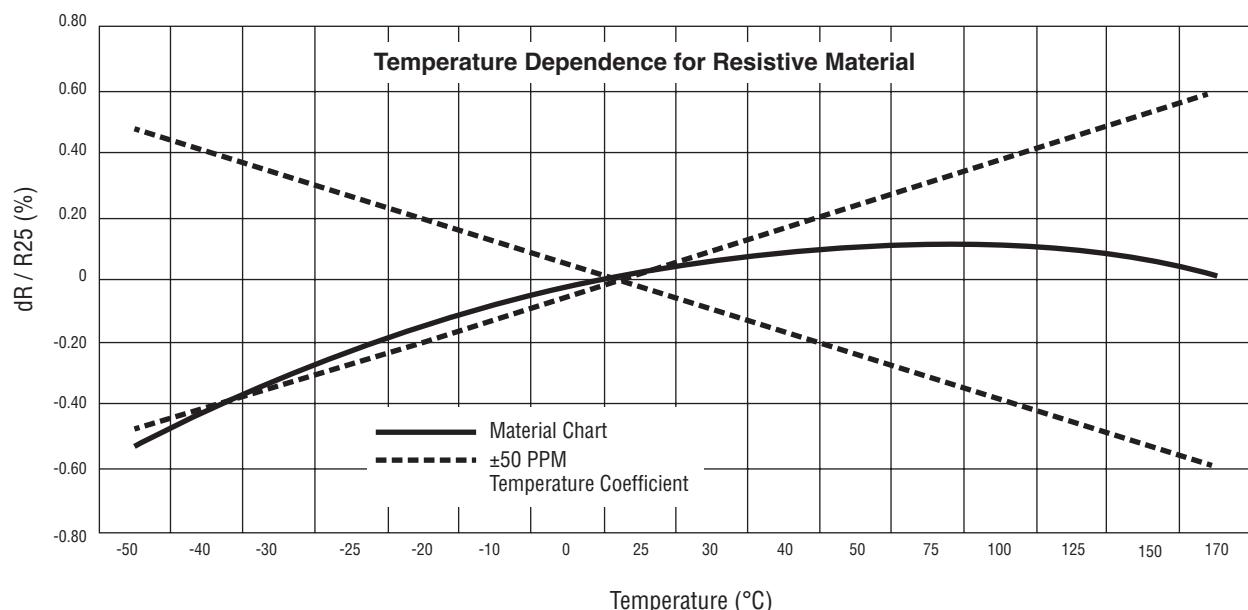
Moisture Sensitivity Level.....	1
ESD Classification.....	Level 6
	per AEC-Q200-002, ≥ 25,000 V air discharge

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TCR Curves

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