

## 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-6918 Series – Shunt Resistor with Sense Pins & Tinned Terminals

#### Electrical Characteristics

Characteristic	Model CSM2F-6918 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)	$\pm 150$ ppm/°C for 50 $\mu\Omega$ and 100 $\mu\Omega$
TCR Resistance Alloy***	< 50 ppm/°C
Inductance	< 5 nH
Resistance Tolerance	$\pm 5$ %

\*\* Terminal temperature

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

#### Additional Information

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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 current rating	$\pm 1.0$ %
Solderability*	J-STD-002	95 % coverage min.

\* Limited to dipping terminals

#### How to Order

CSM 2F - 6918 - L050 J 2 1

Model \_\_\_\_\_

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

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

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

"L" Represents Decimal Point  
L050 = 50 MicroOhms

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

J =  $\pm 5$  %

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](http://www.P65Warnings.ca.gov)

\* RoHS Directive 2015/863, Mar 31, 2015 and Annex.

Specifications are subject to change without notice.

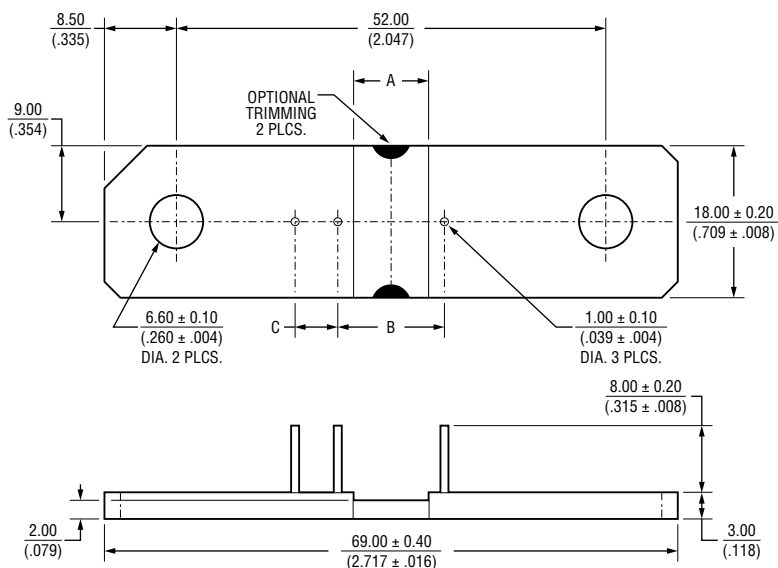
Users should verify actual device performance in their specific applications.

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## CSM2F-6918 Series – Shunt Resistor with Sense Pins & Tinned Terminals

**BOURNS®**

### Product Dimensions

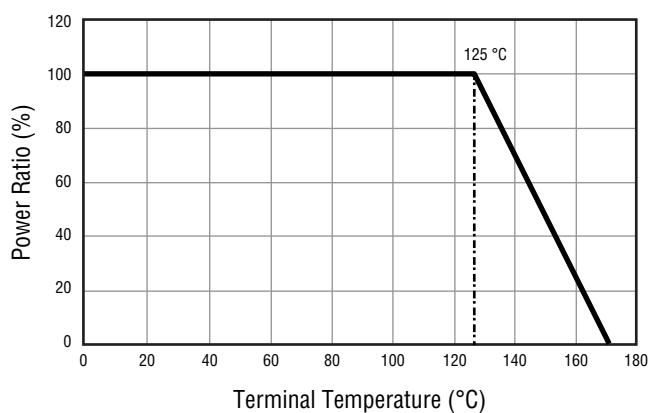


Part Number	Dim A	Dim B	Dim C
CSM2F-6918-L050J21	4.70 (.185)	7.80 (.307)	—
CSM2F-6918-L100J21	9.40 (.370)	12.50 (.492)	—
CSM2F-6918-L050J31	4.70 (.185)	7.80 (.307)	5.59 (.220)
CSM2F-6918-L100J31	9.40 (.370)	12.50 (.492)	5.59 (.220)

Note: plated sense pins: Nickel barrier and 100% Sn.

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

### Power Derating Curve



### General Specifications

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

### Packaging Specifications

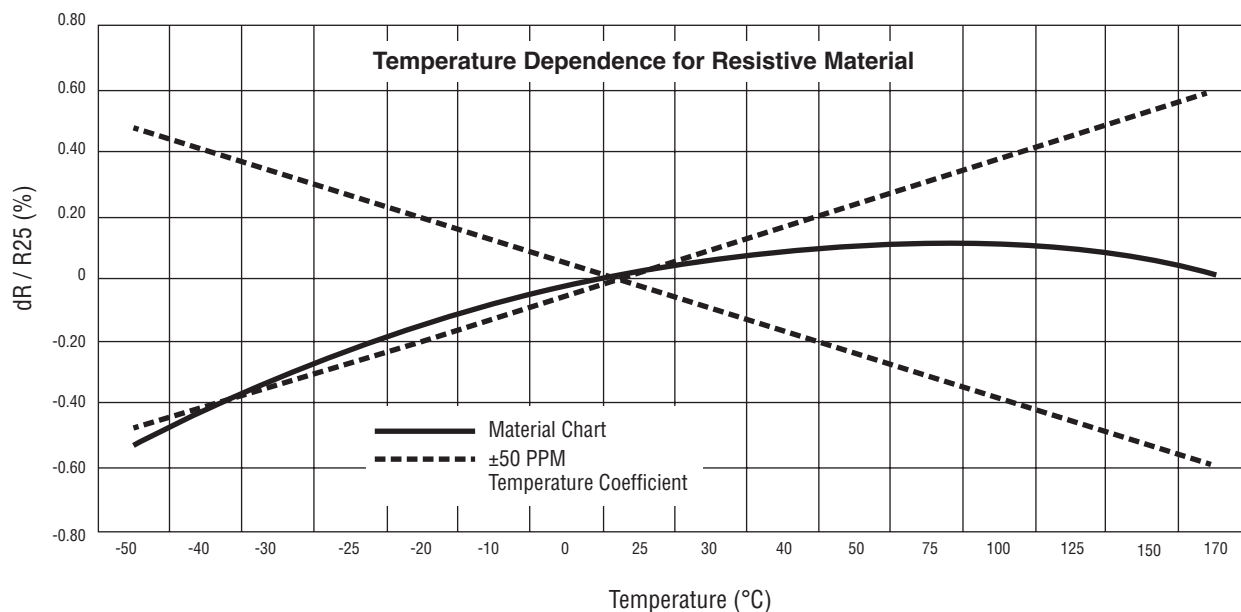
Tray Pack ..... 30 pcs. per high impact polystyrene tray  
210 pcs. per box  
Size..... 460 mm x 320 mm (18.110 in. x 12.598 in.)

Specifications are subject to change without notice.

Users should verify actual device performance in their specific applications.

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## TCR Curves

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