

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-6918 Series Current Sense Resistor / Fully Tinned

Electrical Characteristics

Characteristic	Model CSM2F-6918 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 μH	< 12 μH
Resistance Tolerance	± 5 %

** Terminal temperature

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

Additional Information

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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 \pm polarity	± 0.5 %

* Limited to dipping terminals

How to Order

CSM 2F - 6918 - L050 J 0 2

Model	
No. of Terminals & Style	
Size (Metric)	
Resistance Code (Milliohms)	
"L" Represents Decimal Point L050 = 50 MicroOhms	
Resistance Tolerance	
J = ± 5 %	
Packaging	
0 = Bulk Pack (50 pcs. per bag) T = Tray Pack (52 pcs. per tray)	
Surface Finishing	
2 = Fully Tinned Terminals and Resistive Element	



**WARNING Cancer
and Reproductive Harm**
www.P65Warnings.ca.gov

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

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[illegible]

Part Number	Dim A	Dim B
CSM2F-6918-L050J02	$\frac{4.70}{(.185)}$	$\frac{7.87}{(.310)}$
CSM2F-6918-L100J02	$\frac{9.40}{(.370)}$	$\frac{12.57}{(.495)}$
CSM2F-6918-L200J02	$\frac{20.0}{(.787)}$	$\frac{23.18}{(.990)}$

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

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

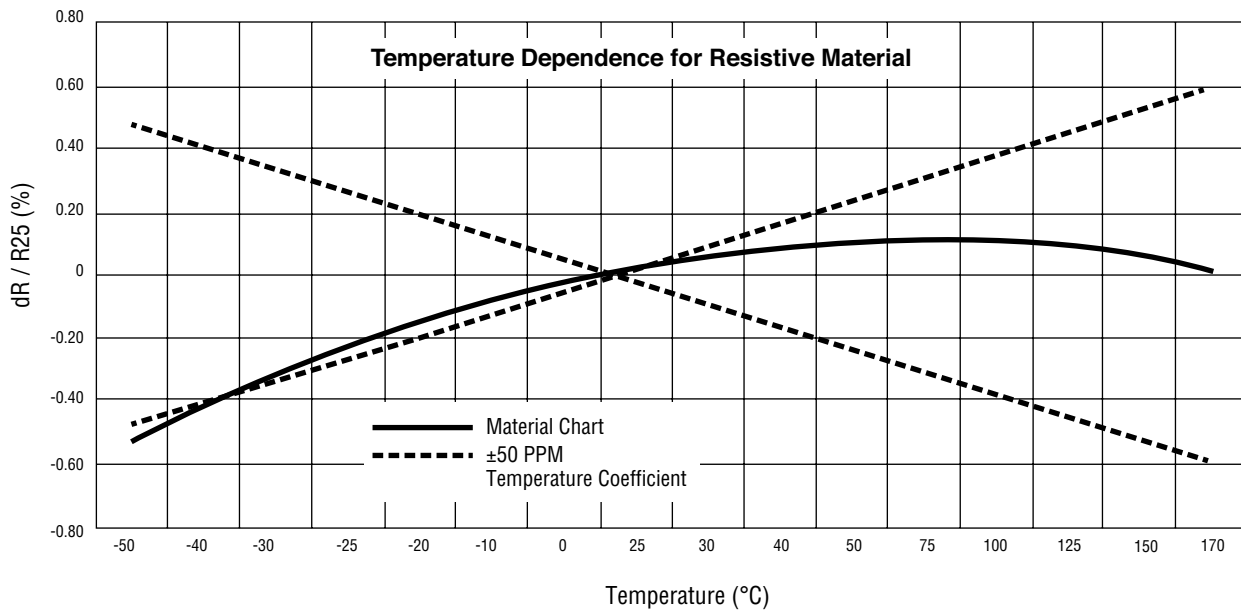
Figure 1 is a line graph showing the relationship between Power Ratio (%) and Terminal Temperature (°C) for a 100% duty cycle. The y-axis represents Power Ratio (%) from 0 to 120 in increments of 20. The x-axis represents Terminal Temperature (°C) from 0 to 180 in increments of 20. The graph shows a constant power ratio of 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 is drawn at 125°C, and the point (125, 100) 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

Bulk Pack.....	50 pcs. per plastic bag
	100 pcs. per box
Tray Pack	52 pcs. per high impact polystyrene tray
	260 pcs. per box
Size.....	246 mm x 246 mm (9.685 in. x 9.685 in.)

TCR Curves

**BOURNS®**Asia-Pacific: Tel: +886-2 2562-4117 • Email: asiacus@bourns.comEMEA: Tel: +36 88 885 877 • Email: eurocus@bourns.comThe Americas: Tel: +1-951 781-5500 • Email: americus@bourns.comwww.bourns.com

REV. 2/21

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