

## Features

- Tinned terminals
- Up to 50 W permanent power
- High pulse power rating
- Maximum fastening torque: 10 Nm
- Customized versions available
- AEC-Q200 and RoHS\* compliant

## Applications

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

### Model CSM2F-7036 Series Current Sense Resistor w/Tinned Terminals

#### Electrical Characteristics

Characteristic	Model CSM2F-7036 Series
Resistance Range / Power Rating @ 70 °C**	25 $\mu\Omega$ / 50 W 50 $\mu\Omega$ / 50 W
Operating Temperature Range	-40 °C to +170 °C
TCR on Test Points	$\pm 150$ ppm/°C
TCR Resistance Alloy***	< 50 ppm/°C
Thermal EMF ( $\mu\text{V/K}$ )	< 0.25 for 50 $\mu\Omega$
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	$\Delta\text{TR Max.}$
Thermal Shock	-55 to +150 °C / 1000 cycles	$\pm 1.0$ %
Resistance to Soldering Heat	+260 °C / 10 seconds	$\pm 0.5$ %
High Temperature Exposure	+170 °C / 1000 hours	$\pm 1.5$ %
Low Temperature Storage	-65 °C / 24 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	1000 hours at max. load, derated at 70 °C	$\pm 1.0$ %
Solderability	J-STD-002	95 % coverage min.

#### How to Order

CSM 2F - 7036 - L050 J 0 1

Model \_\_\_\_\_

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

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

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

“L” Represents Decimal Point  
L025 = 25 MicroOhms  
L050 = 50 MicroOhms

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

J =  $\pm 5$  %

Packaging \_\_\_\_\_

0 = Bulk Pack (50 pcs. per bag)  
T = Tray Pack (28 pcs. per tray)

Surface Finishing \_\_\_\_\_

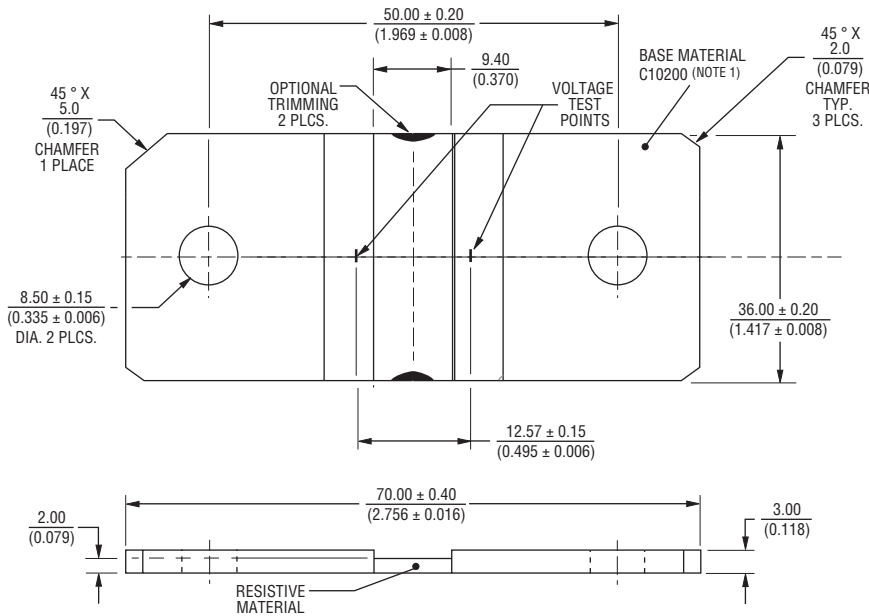
1 = Tinned Terminals



**CALIFORNIA WARNING:** Can expose you to lead, a carcinogen and reproductive toxicant. See [www.P65Warnings.ca.gov](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. The products described herein and this document are subject to specific legal disclaimers as set forth on the last page of this document, and at [www.bourns.com/docs/legal/disclaimer.pdf](http://www.bourns.com/docs/legal/disclaimer.pdf).

**Product Dimensions**

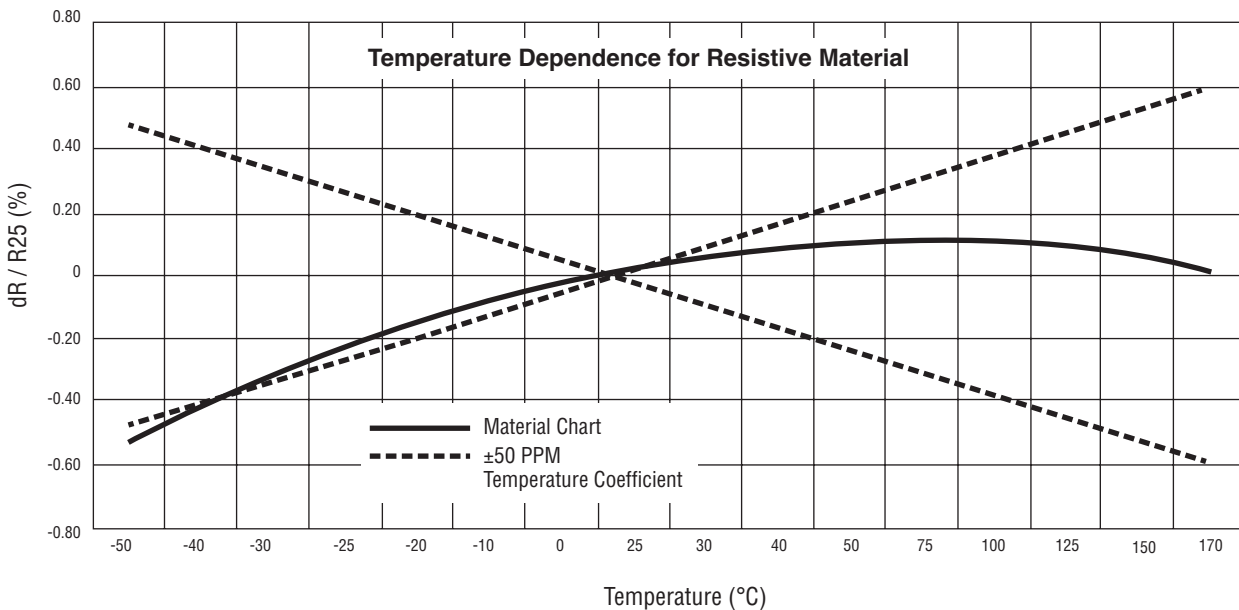


**NOTES:**

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

DIMENSIONS:  $\frac{\text{MM}}{\text{(INCHES)}}$   
 TOLERANCES:  $\frac{0.25}{(.010)}$   
 UNLESS OTHERWISE NOTED

**TCR Curves**

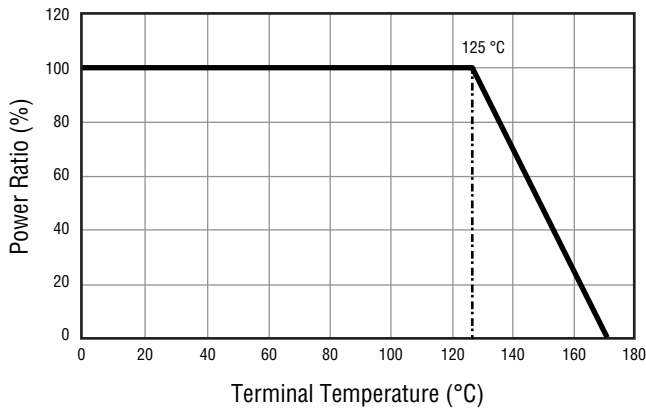


Specifications are subject to change without notice.

Users should verify actual device performance in their specific applications.

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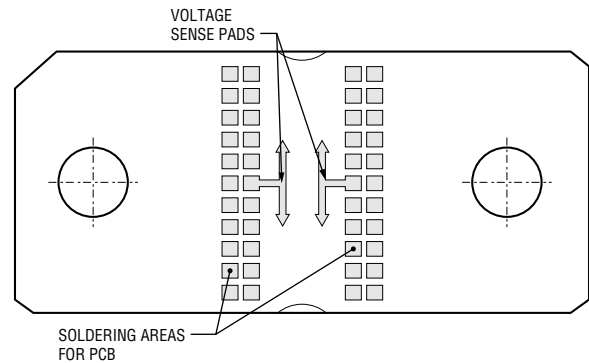
**Power Derating Curve**



**Packaging Specifications**

Bulk Pack.....50 pcs. per plastic bag  
 100 pcs. per box  
 Tray Pack .....28 pcs. per high impact polystyrene tray  
 140 pcs. per box  
 Size..... 235 mm x 225 mm (9.252 in. x 8.858 in.)

**Reference Pad for SMD Mounting**



**General Specifications**

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

**BOURNS®**

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