



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	± 150 ppm/°C
TCR Resistance Alloy***	< 50 ppm/°C
Thermal EMF (μ V/K)	< 0.25 for 50 $\mu\Omega$
Resistance Tolerance	± 5 %

** Terminal temperature

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

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Environmental Characteristics

Characteristic	Test Condition	Δ TR Max.
Thermal Shock	-55 to +150 °C / 1000 cycles	± 1.0 %
Resistance to Soldering Heat	+260 °C / 10 seconds	± 0.5 %
High Temperature Exposure	+170 °C / 1000 hours	± 1.5 %
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	1000 hours at max. load, derated at 70 °C	± 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 = ± 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

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

Specifications are subject to change without notice.

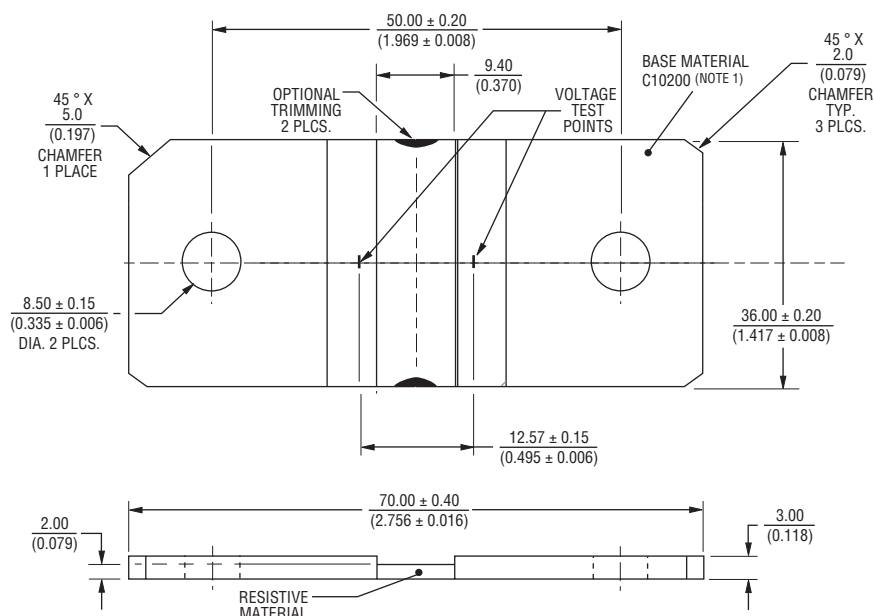
Users should verify actual device performance in their specific applications.

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

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Product Dimensions



NOTES:

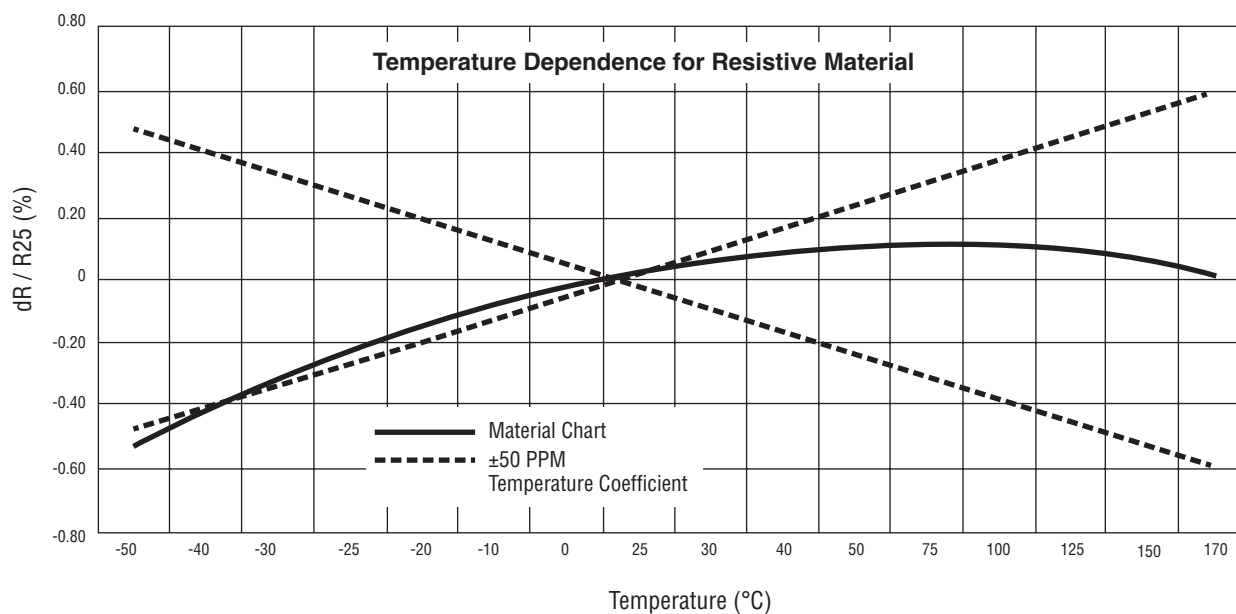
1. Tinned Terminals: 100 % Sn, RoHS Complaint, JESD201 Class-2, ST200 Process, 2.5 -8 micrometers, NI underplate 1.5- 4 micrometers.
2. Base Material Copper: C10200 Temper 1/2 Hard.

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

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

UNLESS OTHERWISE NOTED

TCR Curves



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A line graph showing the relationship between Power Ratio (%) and Terminal Temperature (°C) for a cable rated at 125 °C. The y-axis represents the Power Ratio (%) from 0 to 120 in increments of 20. The x-axis represents the Terminal Temperature (°C) from 0 to 180 in increments of 20. The graph shows a horizontal line at 100% power ratio 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 125 °C point on the x-axis, and the label '125 °C' is placed above the corresponding point on the graph line.

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

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.)

VOLTAGE SENSE PADS

SOLDERING AREAS FOR PCB

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

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