



Features

- Up to 50 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-7036 Series – Shunt Resistor with Sense Pins & Bare Copper Terminals

Electrical Characteristics

Characteristic	Model CSM2F-7036 with Sense Pins
Resistance Range / Power Rating @ 125 °C**	25 $\mu\Omega$ / 50 W 50 $\mu\Omega$ / 50 W 100 $\mu\Omega$ / 50 W
Operating Temperature Range	-40 °C ~ +170 °C
TCR on Test Points (+20 °C to +130 °C)	± 100 ppm/°C for 25 $\mu\Omega$ ± 50 ppm/°C for 50 $\mu\Omega$ and 100 $\mu\Omega$
TCR Resistance Alloy***	< 50 ppm/°C
Inductance	< 5 nH
Resistance Tolerance	± 5 %

** Terminal temperature

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

Additional Information

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Environmental Characteristics

Characteristic	Test Condition	Δ 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 / 1000 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.

* Limited to dipping terminals and not resistor

How to Order

CSM 2F - 7036 - L050 J 2 0

Model _____

No. of Terminals & Style _____

Size (Metric) _____

Resistance Code (Milliohms) _____

“L” Represents Decimal Point
L050 = 50 MicroOhms

Resistance Tolerance _____

J = ± 5 %

Number of Pins _____

2 or 3

Surface Finishing _____

0 = Bare Copper Terminals
Plated Sense Pins



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

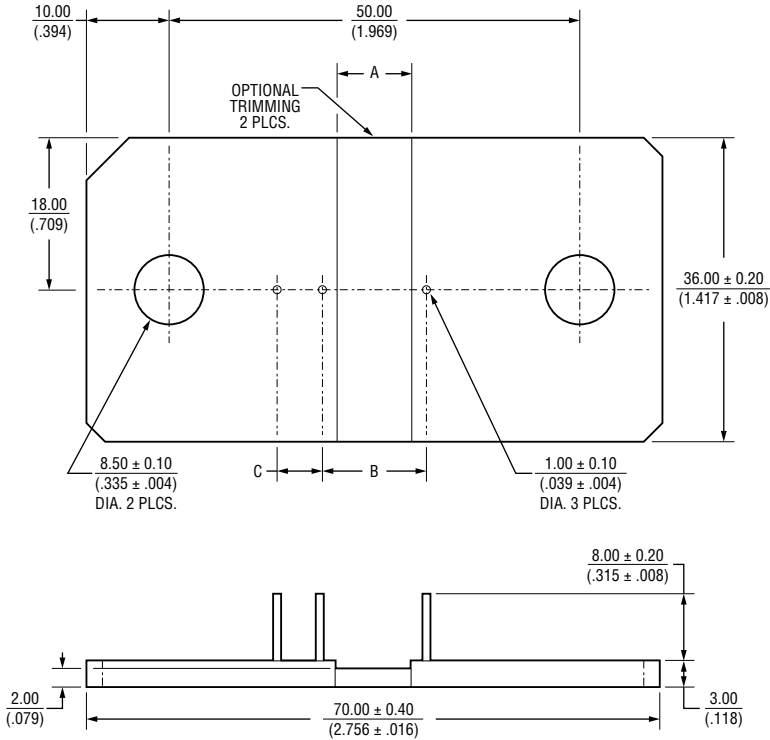
* RoHS Directive 2015/863, Mar 31, 2015 and Annex.

Specifications are subject to change without notice.

Users should verify actual device performance in their specific applications.

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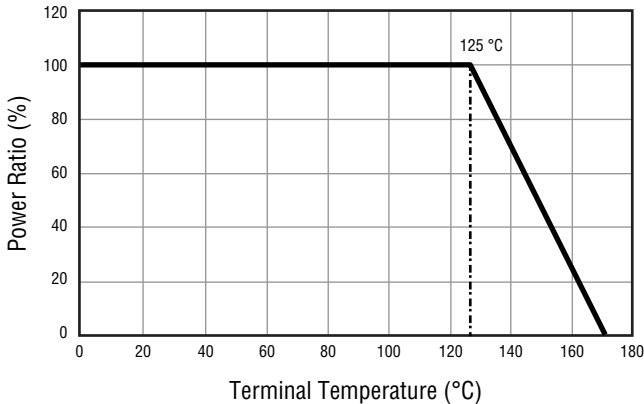
Product Dimensions



Part Number	Dim A	Dim B	Dim C
CSM2F-7036-L025J20	4.70 (.185)	7.87 (.310)	—
CSM2F-7036-L050J20	9.40 (.370)	12.57 (.495)	—
CSM2F-7036-L100J20	20.0 (.787)	23.18 (.913)	—
CSM2F-7036-L025J30	4.70 (.185)	7.87 (.310)	5.59 (.220)
CSM2F-7036-L050J30	9.40 (.370)	12.57 (.495)	5.59 (.220)
CSM2F-7036-L100J30	20.0 (.787)	23.18 (.913)	5.59 (.220)

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

Power Derating Curve



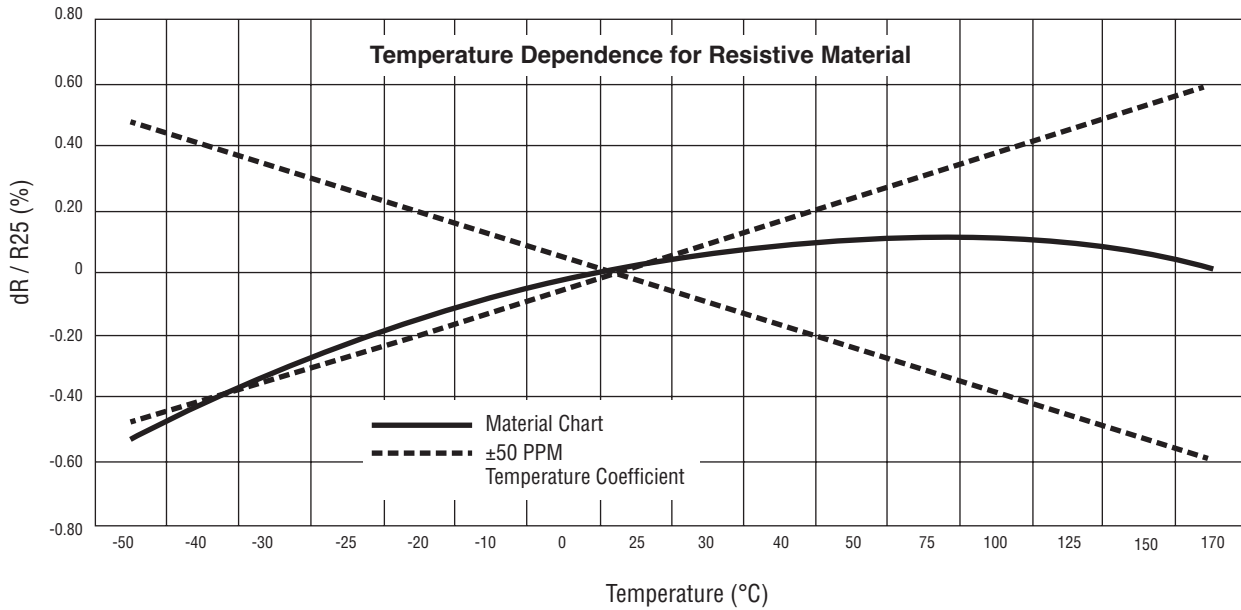
General Specifications

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

Packaging Specifications

Tray Pack 20 pcs. per high impact polystyrene tray
 140 pcs. per box
 Size..... 460 mm x 320 mm (18.110 in. x 12.598 in.)

TCR Curves



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