

Features

- Bare copper terminals
- Up to 50 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-8536 Series Current Sense Resistor w/Bare Copper Terminals

Electrical Characteristics

| Characteristic | Model CSM2F-8536 Series |
|---|--|
| Resistance Range / Power Rating @ 70 °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) | ± 150 ppm/°C for 25 $\mu\Omega$ and 50 $\mu\Omega$ |
| TCR Resistance Alloy*** | < 50 ppm/°C |
| Inductance μH | < 5 μH |
| Resistance Tolerance | ± 5 % |

** Terminal temperature

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

Additional Information

Click these links for more information:



Environmental Characteristics

| Characteristic | Test Condition | $\Delta\text{TR Max.}$ |
|---------------------------|--|------------------------|
| Thermal Shock | -55 °C to +150 °C / 1000 cycles | ± 1.0 % |
| 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

How to Order

CSM 2F - 8536 - L050 J T 0

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 (15 pcs. per tray)

Surface Finishing _____
 0 = Bare Copper Terminals



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

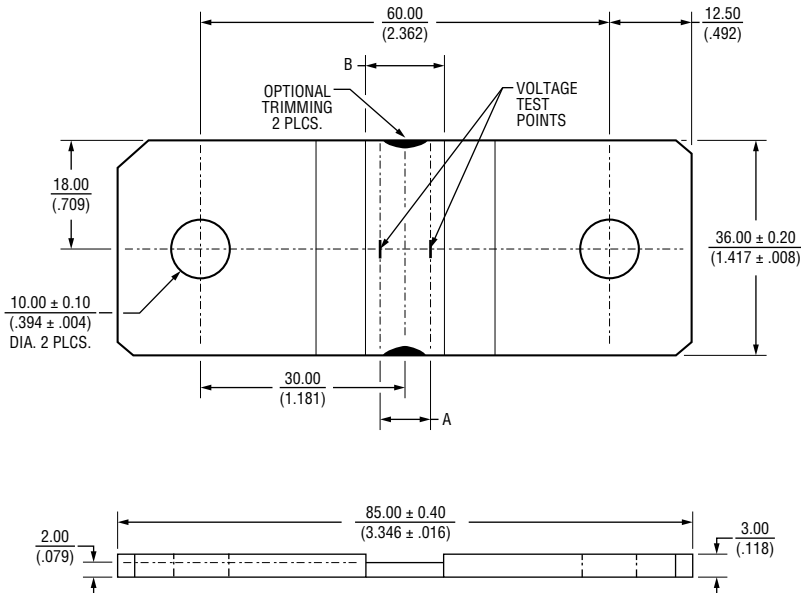
*RoHS Directive 2015/863, Mar 31, 2015 and Annex.

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Model CSM2F-8536 Series Current Sense Resistor w/Bare Copper Terminals



Product Dimensions



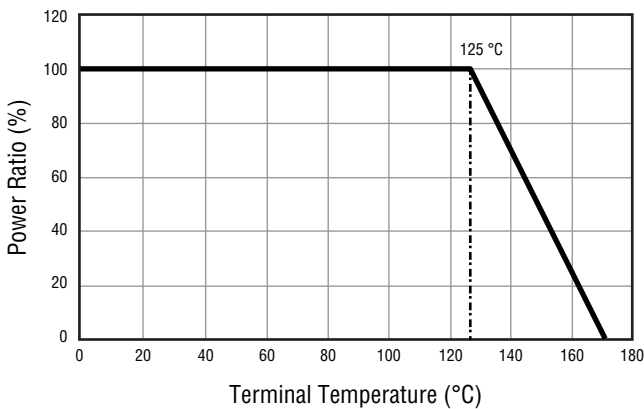
| Part Number | Dim A | Dim B |
|--------------------|-----------------------|------------------------|
| CSM2F-8536-L025J00 | $\frac{4.70}{(.185)}$ | $\frac{7.87}{(.310)}$ |
| CSM2F-8536-L050J00 | $\frac{9.40}{(.370)}$ | $\frac{12.57}{(.495)}$ |
| CSM2F-8536-L100J00 | $\frac{20.0}{(.787)}$ | $\frac{23.18}{(.990)}$ |

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

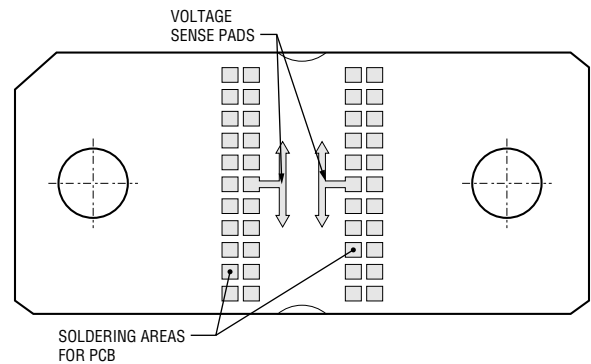
TOLERANCES: $\frac{0.25}{(.010)}$

UNLESS OTHERWISE NOTED

Power Derating Curve



Reference Pad for SMD Mounting



Packaging Specifications

| | |
|-----------------|--|
| Bulk Pack..... | 50 pcs. per plastic bag 100 pcs. per box |
| Tray Pack | 15 pcs. per high impact polystyrene tray 105 pcs. per box |
| Size..... | 300 mm x 246 mm (11.811 in. x 9.685 in.) |

General Specifications

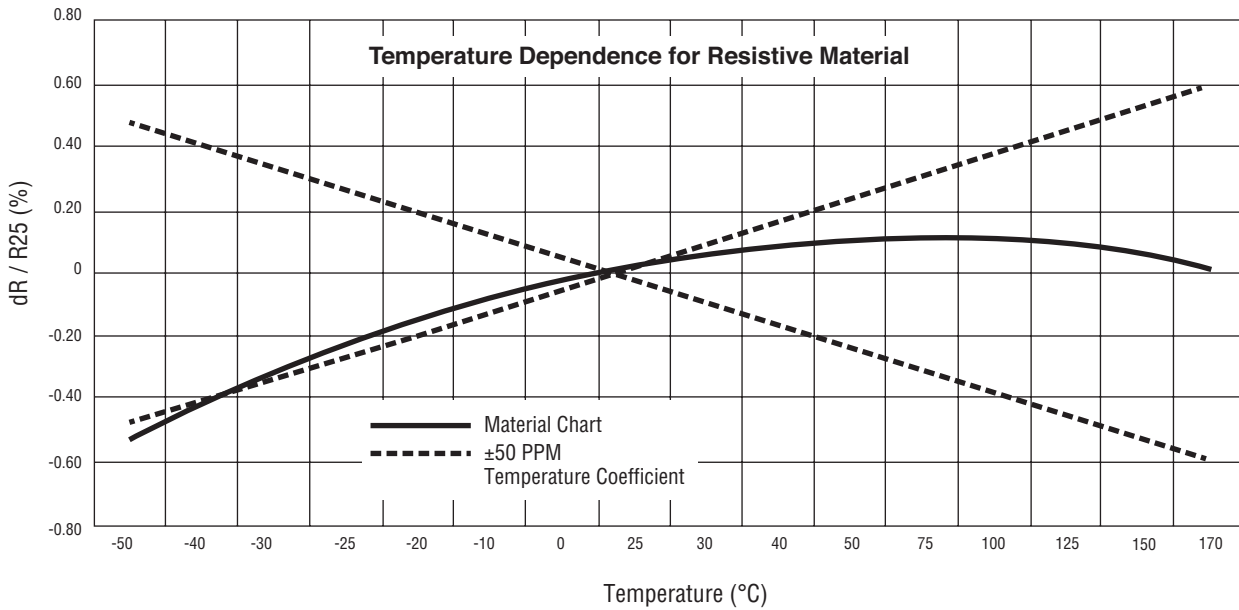
| | |
|---------------------------------|---|
| Moisture Sensitivity Level..... | 1 |
| ESD Classification..... | Level 6 |
| | per AEC-Q200-002, ≥ 25,000 V air discharge |

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Users should verify actual device performance in their specific applications.

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TCR Curves



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