### Features
- Up to 36 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

### Electrical Characteristics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Model CSM2F-8518 with Sense Pins</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resistance Range / Power Rating @ 125 °C**</td>
<td>50 µΩ / 36 W, 100 µΩ / 36 W, 200 µΩ / 36 W</td>
</tr>
<tr>
<td>Operating Temperature Range</td>
<td>-40 °C ~ +170 °C</td>
</tr>
<tr>
<td>TCR on Test Points (±20 °C to +130 °C)</td>
<td>±100 ppm/°C for 50 µΩ, ±150 ppm/°C for 100 µΩ and 200 µΩ</td>
</tr>
<tr>
<td>TCR Resistance Alloy***</td>
<td>&lt; 50 ppm/°C</td>
</tr>
<tr>
<td>Inductance</td>
<td>&lt; 5 nH</td>
</tr>
<tr>
<td>Resistance Tolerance</td>
<td>±5 %</td>
</tr>
</tbody>
</table>

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

### Environmental Characteristics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Test Condition</th>
<th>△TR Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thermal Shock</td>
<td>-55 °C to +150 °C / 1000 cycles</td>
<td>±0.5 %</td>
</tr>
<tr>
<td>High Temperature Exposure</td>
<td>+170 °C / 1000 hours</td>
<td>±1.0 %</td>
</tr>
<tr>
<td>Low Temperature Storage</td>
<td>-65 °C / 1000 hours</td>
<td>±0.5 %</td>
</tr>
<tr>
<td>Biased Humidity Test</td>
<td>+85 °C, 85 % RH, 10 % bias, 1000 hours</td>
<td>±0.5 %</td>
</tr>
<tr>
<td>Mechanical Shock</td>
<td>100 g, 6 milliseconds, 5 pulses</td>
<td>±0.5 %</td>
</tr>
<tr>
<td>Vibration, High Frequency</td>
<td>10-2000 Hz in 1 minute, 3 directions, 12 hours</td>
<td>±0.5 %</td>
</tr>
<tr>
<td>Load Life</td>
<td>+125 °C / 2000 hours at maximum current rating</td>
<td>±1.0 %</td>
</tr>
<tr>
<td>Solderability*</td>
<td>J-STD-002</td>
<td>95 % coverage min.</td>
</tr>
</tbody>
</table>

* Limited to dipping terminals.

### How to Order

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

CSM 2F - 8518 - L050 J 2 0
**Product Dimensions**

**Power Derating Curve**

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**General Specifications**

- **Moisture Sensitivity Level**: 1
- **ESD Classification**: Level 6 per AEC-Q200-002, \( \geq 25,000 \) V air discharge

**Packaging Specifications**

- **Tray Pack**: 24 pcs. per high impact polystyrene tray
- **Size**: 460 mm x 320 mm (18.110 in. x 12.598 in.)
TCR Curves

Temperature Dependence for Resistive Material

- Material Chart
- ±50 PPM Temperature Coefficient

Temperature (°C)

Specifications are subject to change without notice.
Users should verify actual device performance in their specific applications.
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