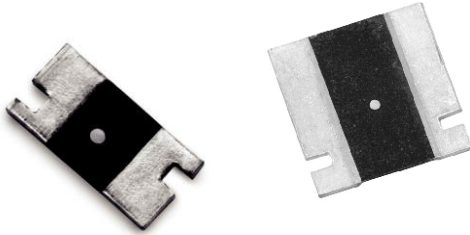


# Bulk Metal® Technology High Precision, Current Sensing, Power Surface Mount, Metal Strip Resistor with Resistance Value from 2 mΩ, Rated Power up to 3 Watts and TCR to 0 ± 15 ppm/°C



Any value at any tolerance available within resistance range

The CSM Series of low value current sense resistors provides power and precision in a four terminal, surface mount configuration. Its all welded construction is made up of a Bulk Metal® resistive element with plated copper terminations. Our Application Engineering Department is available to advise and make recommendations.

For non-standard technical requirements and special applications, please contact us.

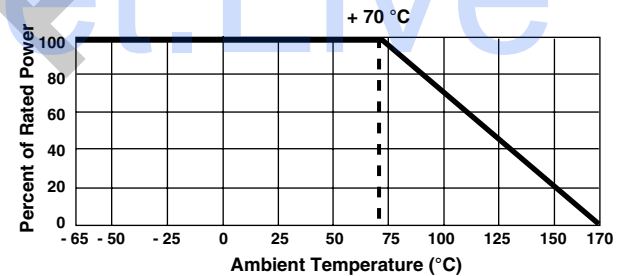
## FEATURES

- Ohmic Values: 2 mΩ to 200 mΩ
- Temperature coefficient: ± 15 ppm/°C (3 mΩ up)
- Tolerance: ± 0.1 %
- Thermal EMF: 3 μV/°C
- Four terminal (Kelvin) design: allows for precision accurate measurements
- Surface mount configuration
- Power Rating: 1 to 3 Watts
- Maximum Current: up to 38 Amps
- Terminal Finishes Available: Lead (Pb)-free  
Tin/Lead Alloy
- For better performance please contact us



**RoHS\***  
COMPLIANT

**FIGURE 1 - POWER DERATING CURVE**



**TABLE 1 - PERFORMANCE SPECIFICATIONS**

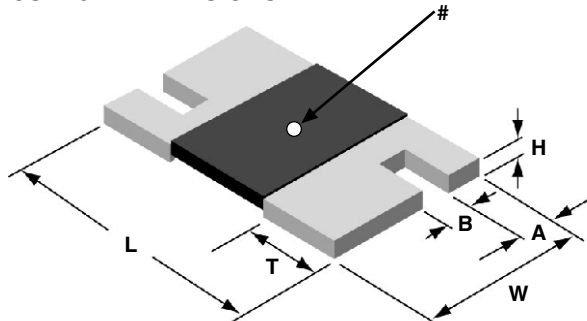
| PARAMETER                                     | CSM2512                           | CSM3637  |
|---|-----------------------------------|--|
| Resistance Range                              | 3 mΩ - 200 mΩ                     | 2 mΩ - 200 mΩ  |
| Power Rating at 70 °C                         | 1 Watt                            | 3 Watts ( 2 mΩ - 10 mΩ)<br>2 Watts (> 10 mΩ - 200 mΩ)      |
| Maximum Current                               | 18 Amps                           | 38 Amps  |
| Tightest Tolerance                            | ± 0.1 %                           |  |
| Temperature Coefficient (- 55 °C to + 125 °C) | ± 15 ppm/°C                       | ± 25 ppm/°C (2 mΩ - < 3 mΩ)<br>± 15 ppm/°C (3 mΩ - 200 mΩ) |
| Operating Temperature Range                   | - 55 °C to + 125 °C; ref. + 25 °C |  |
| Weight (maximum)                              | 0.09 grams                        | 0.29 grams   |

\* Pb containing terminations are not RoHS compliant, exemptions may apply

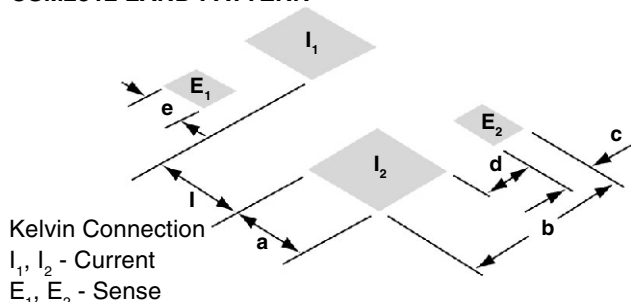
Vishay Foil Resistors Bulk Metal® Technology High Precision, Current Sensing, Power Surface Mount, Metal Strip Resistor with Resistance Value from 2 mΩ, Rated Power up to 3 Watts and TCR to 0 ± 15 ppm/°C

**FIGURE 2 - DIMENSIONS AND IMPRINTING** in inches (millimeters)

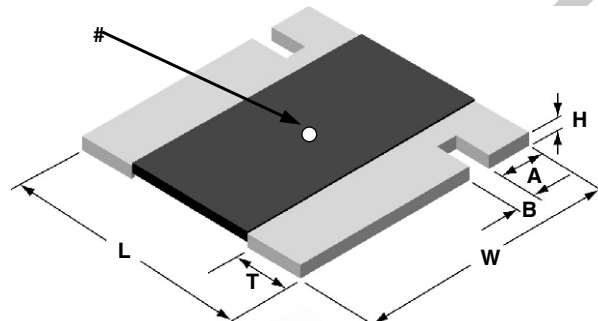
**CSM2512 DIMENSIONS**



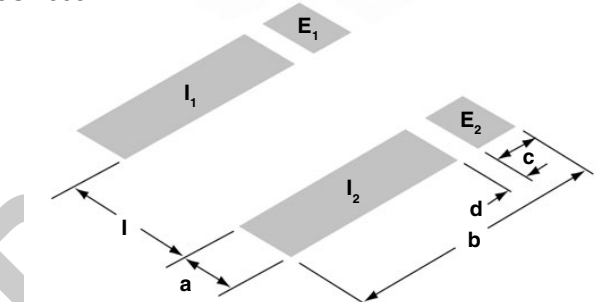
**CSM2512 LAND PATTERN**



**CSM3637 DIMENSIONS**



**CSM3637 LAND PATTERN**



**DIMENSIONS - TOLERANCES ± 0.010 (± 0.254), \* ± 0.015 (± 0.381)**

| MODEL   | RESISTANCE RANGE, mΩ | L            | W             | H             | T             | A              | B              |
|---------|----------------------|--------------|---------------|---------------|---------------|----------------|----------------|
| CSM2512 | 3 to < 5             | 0.25 (6.35)  | 0.125 (3.175) | 0.025 (0.635) | 0.083 (2.108) | 0.030* (0.762) | 0.025* (0.635) |
|         | 5 to < 7             |              |               |               | 0.047 (1.194) |                |                |
|         | 7 to 200             |              |               |               | 0.032 (0.813) |                |                |
| CSM3637 | 2 to 200             | 0.360 (9.14) | 0.370 (9.4)   | 0.025 (0.635) | 0.086 (2.18)  | 0.061 (1.55)   | 0.032 (0.813)  |

**LAND PATTERN DIMENSIONS - TOLERANCES ± 0.003 (± 0.076)**

| MODEL   | a            | b            | c            | d            | e            | I            |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|
| CSM2512 | 0.125 (3.18) | 0.130 (3.30) | 0.030 (0.76) | 0.020 (0.51) | 0.055 (1.40) | 0.065 (1.65) |
| CSM3637 | 0.116 (2.95) | 0.366 (9.30) | 0.066 (1.68) | 0.244 (0.61) | -            | 0.178 (4.52) |

**Note**

# White dot indicates top side of part for mounting purposes

**TABLE 2 - ORDERING INFORMATION**

| MODEL   | RESISTANCE VALUE | LETTER DESIGNATOR* | TOLERANCE   | TERMINATION                        | PACKAGING                            |
|---------|------------------|--------------------|---|------------------------------------|--------------------------------------|
| CSM2512 | 3 mΩ - 200 mΩ    | R                  | B = ± 0.1 %<br>C = ± 0.25 %<br>D = ± 0.5 %<br>F = ± 1.0 % | S = Lead (Pb)-free<br>B = Tin/Lead | W = Waffle Pack<br>T = Tape and Reel |
| CSM3637 | 2 mΩ - 200 mΩ    |                    |   |                                    |                                      |

\* Resistance Value in Ω, is expressed by a series of 6 characters, 5 of with represent significant digits while the 6th letter designates the location of the comma or decimal.

Example:

0R0100 = 0.010 Ω

**SALES**

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