

Available  
RoHS\*  
COMPLIANT

## CSM2512B-2

### Advanced Precision Power Surface Mount Metal Strip Resistor Current Sensing, 2 Terminals

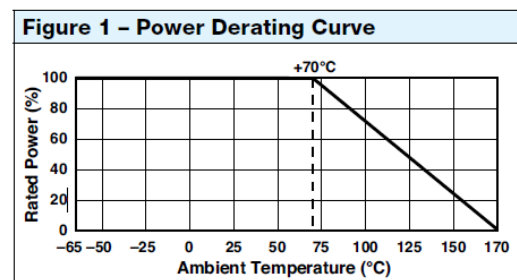
#### FEATURES

- Temperature coefficient of resistance (TCR):  $\pm 15$  ppm/ $^{\circ}\text{C}$  (- 55  $^{\circ}\text{C}$  to + 125  $^{\circ}\text{C}$ , + 25  $^{\circ}\text{C}$  ref.)
- Resistance Value: 50 m $\Omega$
- Tolerance: to  $\pm 1$  %
- Power rating: 3W at + 70  $^{\circ}\text{C}$
- Load life stability:  $\pm 0.5\%$  at 70  $^{\circ}\text{C}$ , 2000 h (rated power)
- Short Time Overload  $\pm 0.3$  % Max
- Maximum current: 7.7 A
- E-Beam welding construction: Copper terminals and NiCr resistive element
- Solderable terminations
- Prototype quantities are available, please contact foil@vpgsensors.com

#### KEY APPLICATIONS

Applications requiring accuracy and repeatability under stress conditions such as the following:

- Switching and linear power supplies
- Precision current-sensing
- Power management systems
- Feedback circuits
- Measurement instrumentation
- Precision instrumentation amplifiers
- Medical and automatic test equipment
- Satellites and aerospace systems
- Over current protection

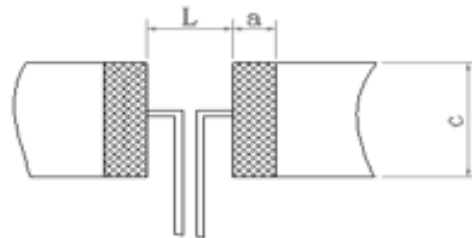
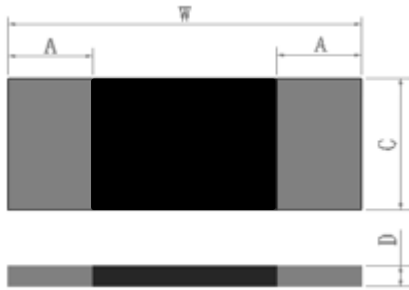


Resistance Value	Rated power at +70 $^{\circ}\text{C}$	Maximum Current	Tolerance	Temperature Coefficient (- 55 $^{\circ}\text{C}$ to + 125 $^{\circ}\text{C}$ , + 25 $^{\circ}\text{C}$ ref.)	Weight (Maximum)
50 m $\Omega$	3 W	7.7 A	$\pm 1\%$	$\pm 15$ ppm/ $^{\circ}\text{C}$	82 mg

Figure 2 – MECHANICAL DIMENSIONS and LAND PATTERN in millimeters

CSM2512B-2 DIMENSIONS

CSM2512B-2 LAND PATTERN



MODEL	RESISTANCE (mΩ)	W	C	A	D
CSM2512B-2	50	6.35 ± 0.2	3.2 ± 0.2	0.9 ± 0.2	0.8 ± 0.1

Land Pattern Dimensions in millimeters				
MODEL	RESISTANCE (mΩ)	L	a	c
CSM2512B-2	50	4.1	2.1	4

Table 2 – CSM2512 -2 Performance Specifications			
Test	CONDITIONS	MIL Reference	ΔR LIMITS
Temperature Cycling	1000 Cycles(-55°C to +150°C)	JESD22 Method JA-104	±0.5%
High Temperature Exposure	100hrs. @T=170°C.Unpowered.	MIL-STD-202 Method 108	±0.5%
Moisture Resistance	t=24hrs/cycle. Note: Steps 7a & 7b not required. Unpowered.	MIL-STD-202 Method 106	±0.3%
Biased Humidity	1000hrs 85°C/85%RH. Note: Specified conditions:10% of operating power.	MIL-STD-202 Method 103	±0.3%
Operational Life	Condition D Steady State TA=125°C at rated power.	MIL-STD-202 Method 108	±0.5%
Solderability	235°C±5°C,2s±0.5s	J-STD-202	95% Coverage Minimum
Resistance to Soldering Heat	260°C±5°C, 10s±1s	MIL-STD-202 Method 210	±0.3%
Short Time Overload	5xRated power for 5 s	MIL-STD-202 Method 301	±0.3%