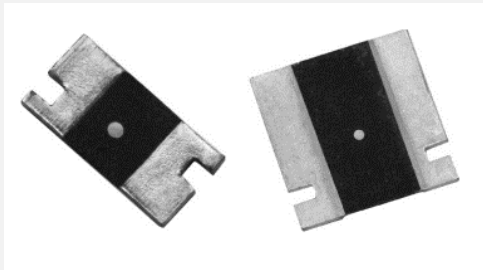


# INFORMATIONS TECHNIQUES



**FABRICANT** : Vishay Foil Resistors (Division of Vishay Precision Group)

## **PRODUITS** : CSM Series Resistors



## **APPLICATIONS** :

- Switching and linear power supplies,
- Precision current-sensing,
- Power management systems,
- Feedback circuits,
- Power amplifiers,
- Measurement instrumentation,
- Precision instrumentation amplifiers,
- Medical and automatic test equipment,
- Satellites and aerospace systems,
- Commercial and Military avionics,
- Test and measurement equipment,
- Electronic scales.

## **FEATURES**

**TEMPERATURE COEFFICIENT OF RESISTANCE** :  $\pm 15$  ppm/ $^{\circ}\text{C}$  max. ( $-55^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$ ,  $+25^{\circ}\text{C}$  ref.);  $\pm 10$  ppm/ $^{\circ}\text{C}$  max. ( $-55^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$ ,  $+25^{\circ}\text{C}$  ref.) is available on request (see table 1).

**POWER RATING** : 1 W to 3 W.

**RESISTANCE TOLERANCE** :  $\pm 0.1\%$

**RESISTANCE RANGE** : 1 m $\Omega$  to 200 m $\Omega$ .

Bulk Metal<sup>®</sup> Foil resistors are not restricted to standard values, specific “as required” values can be supplied at no extra cost or delivery (e.g., 2.3456 m $\Omega$  vs. 2 m $\Omega$ ).

Load life stability to  $\pm 0.2\%$  ( $70^{\circ}\text{C}$ , 2000 h at rated power).

**SHORT TIME OVERLOAD** :  $\pm 0.1\%$  typical.

**THERMAL EMF** : 3  $\mu\text{V}/^{\circ}\text{C}$  (DC offset error, significant for low values).

**MAXIMUM CURRENT** : up to 54 A.

Proprietary processing techniques produce low TCR, tight tolerance and improve stability

**LOW INDUCTANCE** <5 nH

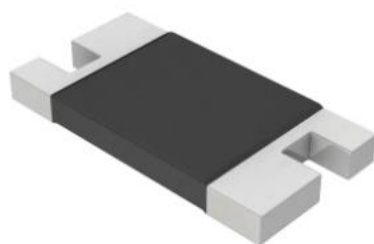
Solderable terminations

**FREQUENCY RESPONSE** : Excellent frequency response to 50 MHz

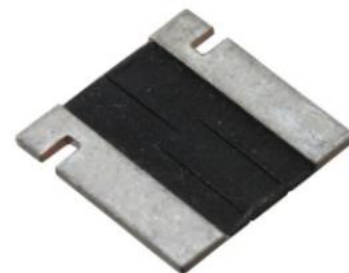
Screening in accordance with EEE-INST002 available (per MIL-PRF-55342 and MIL-PRF-49465; see 303144 and 303145 datasheets).

# SPECIFICATIONS

CSM2512



CSM3637



Resistance Range	1 mΩ to 200 mΩ	
Power Rating at 70°C	1 W(1)	3 W (1 mΩ to 10 mΩ) 2 W (>10 mΩ to 200 mΩ)
Maximum Current(2)	31A	54A
Tolerance	±0.5% (1 mΩ to <3 mΩ) ±0.1% (3 mΩ to 200 mΩ)	±0.5% (1 mΩ to <2 mΩ) ±0.1% (2 mΩ to 200 mΩ)
Temperature Coefficient Max. (-55°C to +125°C, +25°C Ref.)	±50 ppm/°C (1 mΩ to <3 mΩ) ±15 ppm/°C (3 mΩ to 200 mΩ)(3) ±10 ppm/°C (3 mΩ to 10 mΩ) is available on request(4)	±25 ppm/°C (1 mΩ to <3 mΩ) ±15 ppm/°C (3 mΩ to 200 mΩ)(3) ±10 ppm/°C (1 mΩ to 10 mΩ) is available on request(4)
Operating Temperature Range	-65°C to +170°C	
Maximum Working Voltage	$(P \times R)^{1/2}$	
Weight (Maximum)	0.09 g	0.29 g
Dimensions	0,360po L x 0,370po l (9,14mm x 9,40mm)	0,360po L x 0,370po l (9,14mm x 9,40mm)
Hauteur installé	0,035 po (0,89mm)	0,035 po (0,89mm)
Nombre de terminaisons	4	4

(1) For values above 0.1 Ω derate linearly to 80% rated power at 0.5 Ω

(2) Maximum current for a given resistance value is calculated using  $I = P/R$

(3) Loose TCR is available on request: 35ppm/C (3mΩ to 200mΩ)

(4) Please contact application engineering: [joik@ypgsensors.com](mailto:joik@ypgsensors.com)