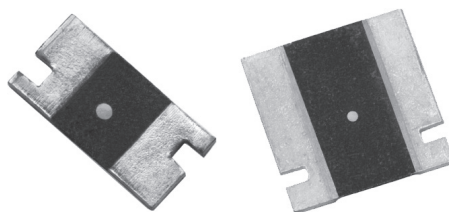


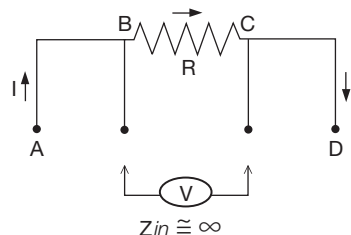
**Bulk Metal® Technology High Precision, Current Sensing,
Power Surface Mount, Metal Strip Resistor**
with Resistance Value from 2 mΩ, Rated Power up to 3 W
and TCR to 0±15 ppm/°C Maximum

FEATURES

- Temperature coefficient of resistance: ±15 ppm/°C max. (–55°C to +125°C, +25°C ref.);
- Power rating: up to 3 W
- Resistance tolerance to: ±0.1%
- Resistance range: 2 mΩ to 200 mΩ
- CSM Series resistors are not restricted to standard values, specific “as required” values can be supplied (e.g., 2.34 mΩ vs. 2 mΩ)
- Load life stability to ±0.2% (70°C, 2000 h at rated power)
- Short time overload: ±0.1% typical



RoHS*
COMPLIANT



Four terminal (Kelvin) design: allows for precise and accurate measurements.

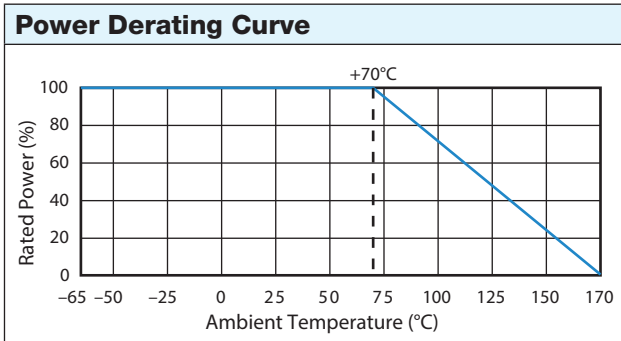
Specifications

PARAMETER	CSM2512	CSM3637
Resistance Range	5 mΩ to 200 mΩ	2 mΩ to 200 mΩ
Power Rating at 70°C	1 W	3 W (2 mΩ to 10 mΩ) 2 W (>10 mΩ to 200 mΩ)
Maximum Current ⁽¹⁾	14 A	38 A
Tolerance	±0.5% (5 mΩ to <10 mΩ) ±0.1% (10 mΩ to 200 mΩ)	±0.5% (2 mΩ to <5 mΩ) ±0.1% (5 mΩ to 200 mΩ)
Temperature Coefficient Max. (–55°C to +125°C, +25°C Ref.)	±15 ppm/°C	±15 ppm/°C
Operating Temperature Range	–65°C to +170°C	
Maximum Working Voltage	$(P \times R)^{1/2}$	
Weight (Maximum)	0.09 g	0.44 g

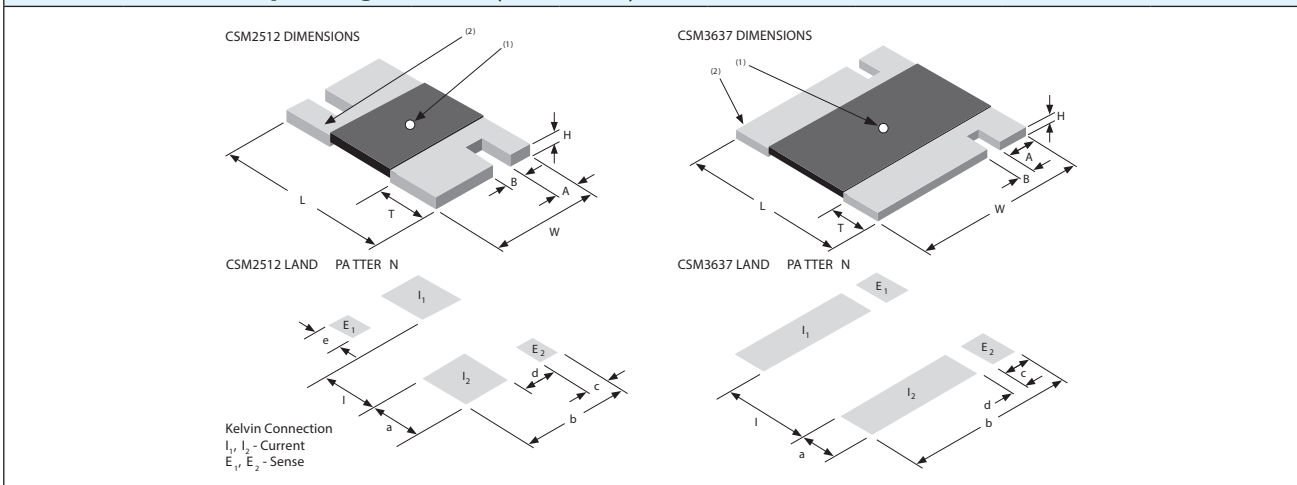
Notes

⁽¹⁾ Maximum current for a given resistance value is calculated using $I = \sqrt{P/R}$

* This datasheet provides information about parts that are RoHS-compliant and/or parts that are non-RoHS-compliant. For example, parts with lead (Pb) terminations are not RoHS compliant.



Dimensions and Imprinting in inches (millimeters)



Dimensions – Tolerances ± 0.010 (± 0.254), * ± 0.015 (± 0.381)

MODEL	RESISTANCE RANGE (mΩ)	L	W	H	T	A	B
CSM2512	5 to 200	0.250 (6.350)	0.125 (3.175)	0.025 (0.635)	0.031 (0.8)	0.030 (0.762)*	0.032 (0.813)*
CSM3637	2 to 200	0.360 (9.144)	0.370 (9.398)	0.031 (0.8)	0.086 (2.184)	0.061 (1.549)	0.032 (0.813)

Land Pattern Dimensions – Tolerances ± 0.003 (± 0.076)

MODEL	RANGE	a	b	c	d	e	l
CSM2512	0R005 to 0R2	0.065 (1.65)	0.145 (3.68)	0.045 (1.14)	0.021 (0.53)	0.055 (1.39)	0.160 (4.06)
CSM3637	0R002 to 0R2	0.116 (2.95)	0.390 (9.91)	0.066 (1.68)	0.024 (0.610)	–	0.178 (4.52)

Note

⁽¹⁾ White dot indicates top side of part for mounting purposes

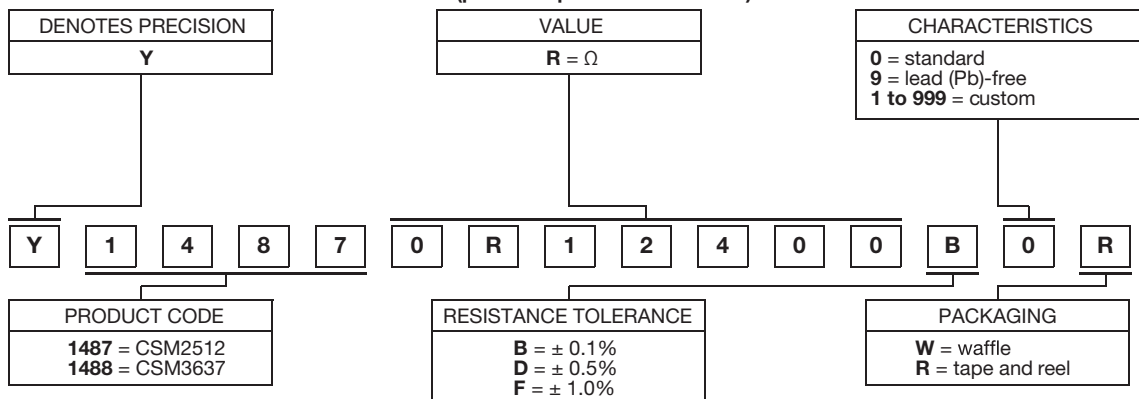
⁽²⁾ This side of the terminal is dispensable for soldering purposes. The Terminals might have a minimum of three sides and a maximum of five sides available for soldering.

CSM Series Performance Specifications				
TEST	CONDITIONS	MIL-PRF-49465 ΔR LIMITS	CSM2512/CSM3637	
			TYPICAL ΔR LIMITS ⁽¹⁾	MAXIMUM ΔR LIMITS ⁽¹⁾
Thermal Shock	-55°C to +150°C, 1000 cycles, 15 min at each extreme	$\pm(0.5\%+0.0005R)$	0.1%	0.3%
Load Life Stability	2000 h, 70°C at rated power	$\pm(1.0\%+0.0005R)$	0.2%	1.0%
Bias Humidity	+85°C, 85% humidity 10% bias, 1000 h	$\pm(0.5\%+0.0005R)$	0.05%	0.2%
Short Time Overload	5 x rated power for 5 s ⁽²⁾	$\pm(0.5\%+0.0005R)$	0.1%	0.5%
High Temperature Exposure	1000 h, 170°C	$\pm(1.0\%+0.0005R)$	0.2%	0.3%
Low Temperature Storage	-55°C for 24 h	$\pm(0.5\%+0.0005R)$	0.05%	0.2%
Moisture Resistance	MIL-STD-202, method 106, 0 power	$\pm(0.5\%+0.0005R)$	0.02%	0.05%
Shock	100 g, 6 ms, 5 pulses	$\pm(0.1\%+0.0005R)$	0.02%	0.05%
Vibration	(10 Hz to 2000 Hz) 20 g	$\pm(0.1\%+0.0005R)$	0.02%	0.05%
Resistance to Soldering Heat	PER-MIL-PRF-55342 para. 4.8.8.1	$\pm(0.25\%+0.0005R)$	0.05%	0.05%
Solderability	MIL-STD-202	95% coverage	–	–

Note⁽¹⁾ Measurement error allowed for ΔR limits: 0.0005 Ω .⁽²⁾ Maximum current should not be exceeded

Global Part Number Information ⁽¹⁾

NEW GLOBAL PART NUMBER: Y14870R12400B0R (preferred part number format)



FOR EXAMPLE: ABOVE GLOBAL ORDER Y1487 0R12400 B 0 R:

TYPE: CSM2512

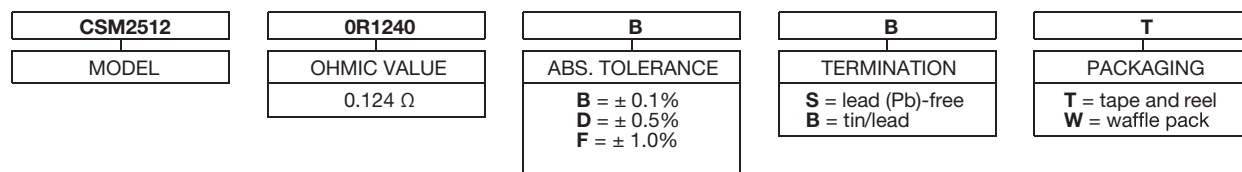
VALUE: 124.0 m Ω

ABSOLUTE TOLERANCE: $\pm 0.1\%$

TERMINATION: standard tin/lead

PACKAGING: tape and reel

HISTORICAL PART NUMBER: CSM2512 0R1240 B B T (will continue to be used)



Note

⁽¹⁾ For non-standard requests, please contact application engineering.