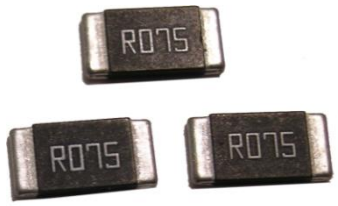
Features:

- High power metal alloy current sense resistor
- Molded package for superior heat dissipation
- Typical inductance <5nH
- Ideal for power supplies and motor drives
- Package size 2512 is qualified to AEC-Q200
- RoHS compliant and halogen-free

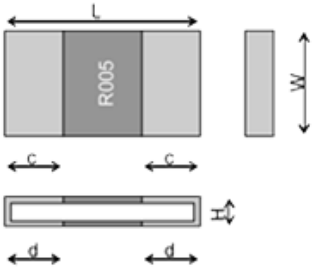


Electrical Specifications

Type / Code	Power Rating (Watt)	Maximum Working Voltage	Maximum Current (A)	TCR (ppm/ºC)	Ohmic Range (Ω) and Tolerance
					1%, 5%
CSM0603	0.33W	$(P*R)^{1/2}$	5.6A	±100 ppm/ºC	0.01
CSM2512	3W	$(P*R)^{1/2}$	54.8A	±75 ppm/ºC	0.001 - 0.1

Operation Temperature Range: CSM0603 = -55ºC ~ +155ºC; CSM2512 = -55ºC ~ +170ºC
P=Rated Power (W)
R=Resistance Value (Ω)

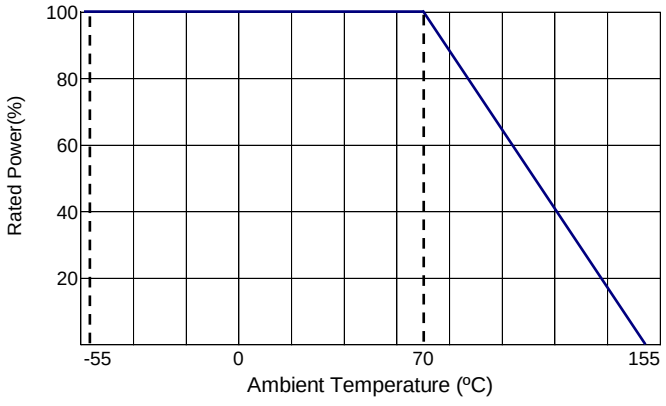
Mechanical Specifications



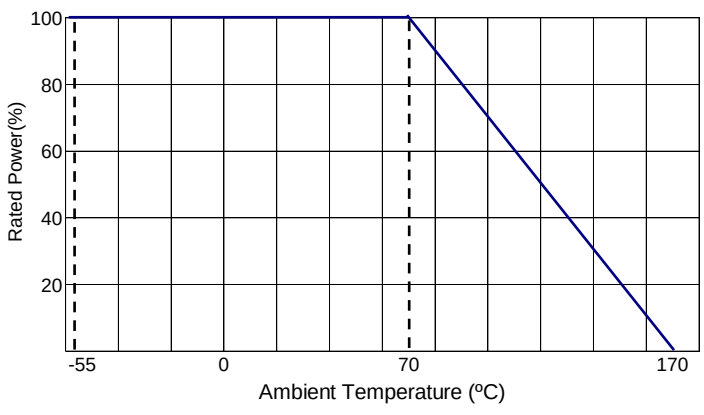
Type / Code	L	W	C	H	d	Unit
CSM0603	0.063 ± 0.004 1.60 ± 0.10	0.031 ± 0.004 0.80 ± 0.10	0.008 ± 0.004 0.20 ± 0.10	0.012 ± 0.004 0.30 ± 0.10	0.012 ± 0.004 0.30 ± 0.10	inches mm
CSM2512 (0.001Ω - 0.004Ω)	0.252 ± 0.008 6.40 ± 0.20	0.126 ± 0.008 3.20 ± 0.20	0.079 ± 0.008 2.00 ± 0.20	0.028 ± 0.008 0.70 ± 0.20	0.079 ± 0.008 2.00 ± 0.20	inches mm
CSM2512 (>0.004Ω - 0.1Ω)	0.252 ± 0.008 6.40 ± 0.20	0.126 ± 0.008 3.20 ± 0.20	0.035 ± 0.008 0.90 ± 0.20	0.028 ± 0.008 0.70 ± 0.20	0.035 ± 0.008 0.90 ± 0.20	inches mm

Power Derating Curve:

CSM0603



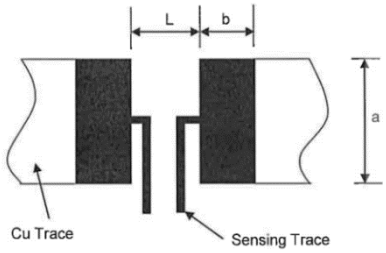
CSM2512



Performance Characteristics		
Test Item	Test Specification	Test Condition
Temperature Coefficient of Resistance	CSM2512 ± 75 ppm/ºC CSM0603 ± 100ppm/ºC	+25 ºC ~ +125 ºC
Load Life	±1%	1000 hours at rated power, 70 ºC, 1.5 hours ON, 0.5 hours OFF
Short Time Overload	±0.5% (for 0.04 - 0.1Ω > rated power x 2.5 for 5 seconds)	5 X rated power for 5 seconds
Moisture No Load	±0.5%	85ºC, 85% RH, 1000 hours
Temperature Cycling	< ±0.5%	1000 cycles (-55 °C to 125 °C) Measurement at 24 hours after test conclusion JESD22 Method JA-104
Resistance to Soldering Heat	±0.5%	260 ± 5 ºC for 20 ± 1 seconds
Solderability	At least 95% of surface area of electrode must be covered with new solder	245 ± 5 ºC for 2 ± 0.5 seconds
High Temperature Exposure	±0.5%	170 ºC for 1000 hours
Low Temperature Storage	±0.5%	-55 ºC for 1000 hours
Substrate Bending	±1%	Bending width 2 mm
Insulation Resistance	> 100 MΩ	100V DC for 1 minute

Storage Conditions: Temperature 5 °C ~ 35 °C; R.H. 40% ~ 75%

Recommended Pad Layout



Type / Code	a	b	L	Unit
CSM0603	0.039 1.00	0.028 0.70	0.035 0.90	inches mm
CSM2512	0.157 4.00	0.083 2.10	0.161 4.10	inches mm

RoHS Compliance

Stackpole Electronics has joined the worldwide effort to reduce the amount of lead in electronic components and to meet the various regulatory requirements now prevalent, such as the European Union's directive regarding "Restrictions on Hazardous Substances" (RoHS 3). As part of this ongoing program, we periodically update this document with the status regarding the availability of our compliant components. All our standard part numbers are compliant to EU Directive 2011/65/EU of the European Parliament as amended by Directive (EU) 2015/863/EU as regards the list of restricted substances.

RoHS Compliance Status						
Standard Product Series	Description	Package / Termination Type	Standard Series RoHS Compliant	Lead-Free Termination Composition	Lead-Free Mfg. Effective Date (Std Product Series)	Lead-Free Effective Date Code (YY/WW)
CSM	Molded Metal Plate Sensing Resistor	SMD	YES	100% Matte Sn over Ni	Always	Always

"Conflict Metals" Commitment

We at Stackpole Electronics, Inc. are joined with our industry in opposing the use of metals mined in the "conflict region" of the eastern Democratic Republic of the Congo (DRC) in our products. Recognizing that the supply chain for metals used in the electronics industry is very complex, we work closely with our own suppliers to verify to the extent possible that the materials and products we supply do not contain metals sourced from this conflict region. As such, we are in compliance with the requirements of Dodd-Frank Act regarding Conflict Minerals.

Compliance to "REACH"

We certify that all passive components supplied by Stackpole Electronics, Inc. are SVHC (Substances of Very High Concern) free and compliant with the requirements of EU Directive 1907/2006/EC, "The Registration, Evaluation, Authorization and Restriction of Chemicals", otherwise referred to as REACH. Contact us for complete list of REACH Substance Candidate List.

Environmental Policy

It is the policy of Stackpole Electronics, Inc. (SEI) to protect the environment in all localities in which we operate. We continually strive to improve our effect on the environment. We observe all applicable laws and regulations regarding the protection of our environment and all requests related to the environment to which we have agreed. We are committed to the prevention of all forms of pollution.

How to Order

1	2	3	4	5	6	7	8	9	10	11	12	13
C	**S**	**M**	**2**	**5**	**1**	**2**	**F**	**T**	**1**	**0**	**L**	**0**

Product Series

Code	Description
CSM	Molded Metal Plate Sensing Resistor

Size

Code	Power
0603	0.33W
2512	3W

Tolerance

Code	Tol
F	1%
J	5%

Packaging

Code	Description	Size	Quantity
T	Paper Tape	0603	5,000
	Emboss	2512	4,000

Resistance Value

Four characters with the multiplier used as the decimal holder.

"L" used as multiplier of 10^{-3} for any value under 0.1 ohm

0.001 = 1L00
0.01 = 10L0
0.1 ohm = R100

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