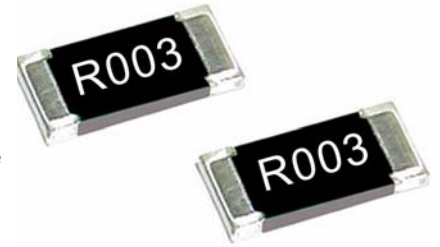


CSNL Series — Metal Foil Current Sensing Resistors



Features

- High Power Current Sense Resistors
- Low inductance – typically less than 0.1nH
- Resistances down to 0.0005 (1/2 milliΩ)
- RoHS compliant / lead-free
- TCR of ± 50 ppm/°C
- Current handling to 63 amps
- Non-standard resistance values available



Electrical Specifications

Type / Code	Package Type	Power Rating (Watts) @ 80°C	Dielectric Withstanding Voltage	Resistance Temperature Coefficient	Ohmic Range and Tolerance	
					1%	5%
CSNL 1/2	1206	1W	200V	± 50 ppm/°C	0.001Ω – 0.050Ω	0.001Ω – 0.050Ω
CSNL 1	2010	1.0W(1.5W)*	200V	± 50 ppm/°C	0.0005Ω – 0.100Ω	0.0005Ω – 0.100Ω
CSNL 2	2512	1.0W(2W)*	200V	± 50 ppm/°C	0.0005Ω – 0.01Ω	0.0005Ω – 0.01Ω

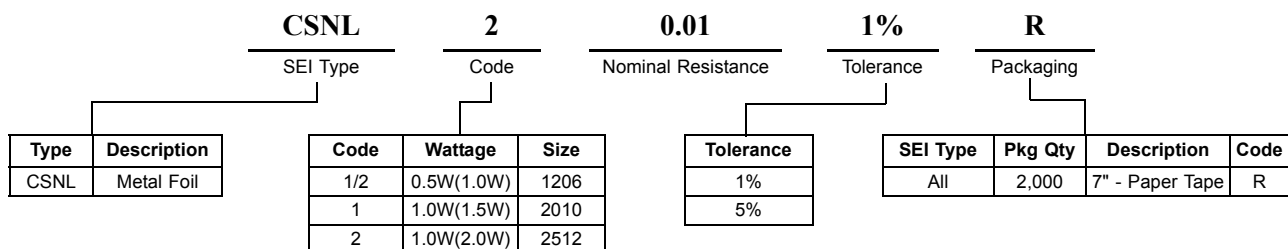
* Higher power rating for each package size is valid if ambient temp $\leq 80^\circ\text{C}$ and terminal temp $\leq 105^\circ\text{C}$

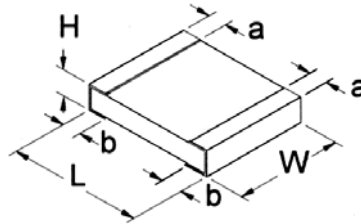
Performance Characteristics

Test	Test Method	Test Specification	Typical
Load Life	MIL-STD-5202F-Method 108A RCWV at 70°C; 1.5hrs ON; 0.5hrs OFF Total 1024 \pm 24hrs	$\pm 0.5\%$	$\leq 0.5\%$
Resistance to Soldering Heat	MIL-STD-202F-Method 210E 260 \pm 5°C for 10 \pm 1sec	$\pm 0.5\%$	$\leq 0.25\%$
Solderability	MIL-STD-202F-Method 208H 245 \pm 5°C for 2 \pm 0.5secs	min 95% coverage	$\geq 95\%$
Thermal Shock	MIL-STD-202F-Method 107G -55°C to 150°C, 100cycles	$\pm 0.5\%$	$\leq 0.5\%$
Short Time Overload	JIS-C-5202-5.5 5x rated power for 5 sec	$\pm 0.5\%$	$\leq 0.5\%$
Temperature Cycling	JIS-C-5202-7.4 -55°C: 30 min. 25°C: 2 to 3 min. 155°C: 30 min. 25°C: 2 to 3 min. (5 Cycles)	$\pm 0.5\%$	$\leq 0.5\%$
Moisture Resistance	MIL-STD-202F-Method 106G	$\pm 0.5\%$	$\leq 0.5\%$
Insulation Resistance	MIL-STD-202F-Method 302 Apply 100Vdc for 1 minute	1MΩ minimum	$\geq 1\text{M}\Omega$
Leach Resistance	-	90 seconds min	>90 seconds

Operating Temperature Range : -55°C to $+170^\circ\text{C}$

How to Order





Mechanical Specifications

Type / Code	L Body Length	W Body Width	H Body Height	a Top Termination	b Bottom Termination	Units
CSNL 1/2	3.30 ± 0.254	1.80 ± 0.254	0.750 ± 0.254	0.50 ± 0.254	0.50 ± 0.254	mm
CSNL 1 (≤3mΩ)	5.10 ± 0.254	2.54 ± 0.254	0.80 ± 0.254	1.60 ± 0.254	1.60 ± 0.254	mm
CSNL 1 (≥4mΩ)	5.10 ± 0.254	2.54 ± 0.254	0.80 ± 0.254	0.80 ± 0.254	0.80 ± 0.254	mm
CSNL 2 (0.5mΩ)	6.35 ± 0.25	3.18 ± 0.25	1.40 ± 0.20	1.425 ± 0.377	1.425 ± 0.377	mm
CSNL 2 (0.75mΩ)	6.35 ± 0.25	3.18 ± 0.25	1.00 ± 0.20	1.425 ± 0.377	1.425 ± 0.377	mm
CSNL 2 (1mΩ)	6.35 ± 0.25	3.18 ± 0.25	0.80 ± 0.20	1.425 ± 0.377	1.425 ± 0.377	mm
CSNL 2 (1.5mΩ)	6.35 ± 0.25	3.18 ± 0.25	0.65 ± 0.20	1.425 ± 0.377	1.425 ± 0.377	mm
CSNL 2 (2mΩ)	6.35 ± 0.25	3.18 ± 0.25	0.50 ± 0.20	1.425 ± 0.377	1.425 ± 0.377	mm
CSNL 2 (2.5mΩ)	6.35 ± 0.25	3.18 ± 0.25	1.00 ± 0.20	1.425 ± 0.377	1.425 ± 0.377	mm
CSNL 2 (3mΩ)	6.35 ± 0.25	3.18 ± 0.25	0.70 ± 0.20	1.425 ± 0.377	1.425 ± 0.377	mm
CSNL 2 (3.5mΩ)	6.35 ± 0.25	3.18 ± 0.25	0.71 ± 0.20	1.425 ± 0.377	1.425 ± 0.377	mm
CSNL 2 (4mΩ)	6.35 ± 0.25	3.18 ± 0.25	0.60 ± 0.20	1.425 ± 0.377	1.425 ± 0.377	mm
CSNL 2 (4.5mΩ)	6.35 ± 0.25	3.18 ± 0.25	0.58 ± 0.20	1.425 ± 0.377	1.425 ± 0.377	mm
CSNL 2 (5mΩ)	6.35 ± 0.25	3.18 ± 0.25	0.50 ± 0.20	1.425 ± 0.377	1.425 ± 0.377	mm
CSNL 2 (5.5mΩ)	6.35 ± 0.25	3.18 ± 0.25	0.47 ± 0.20	1.425 ± 0.377	1.425 ± 0.377	mm
CSNL 2 (6mΩ)	6.35 ± 0.25	3.18 ± 0.25	0.50 ± 0.20	1.425 ± 0.377	1.425 ± 0.377	mm
CSNL 2 (6.5mΩ)	6.35 ± 0.25	3.18 ± 0.25	0.47 ± 0.20	1.425 ± 0.377	1.425 ± 0.377	mm
CSNL 2 (7mΩ)	6.35 ± 0.25	3.18 ± 0.25	0.45 ± 0.20	1.425 ± 0.377	1.425 ± 0.377	mm
CSNL 2 (10mΩ)	6.50 ± 0.35	3.20 ± 0.25	0.80 ± 0.15	1.90 ± 0.15	1.90 ± 0.15	mm

