Features:

- High power current sense resistor
- TCR of ±50 ppm/°C
- Resistances down to 0.0005 (1/2 mΩ)
- Current handling up to 63 amps
- Non-standard resistance values available
- RoHS compliant, lead-free and halogen-free

Electrical Specifications

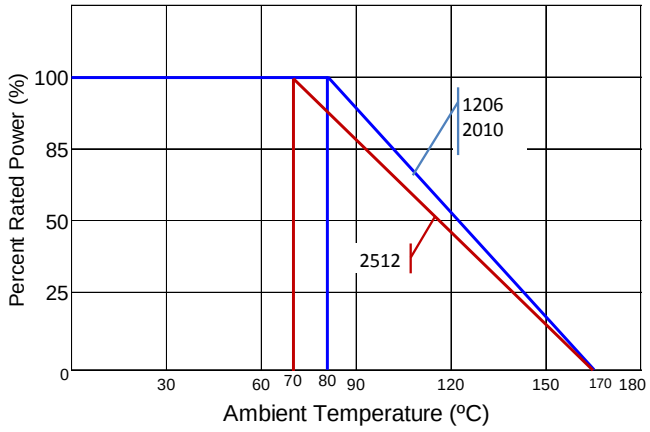
Type / Code	Old Pkg Code	Power Rating (Watts)	Dielectric Withstanding Voltage	Resistance Temperature Coefficient	Ohmic Range (Ω) and Tolerance
					1%, 5%
CSNL1206	1/2	1W @ 80ºC	200V	±50 ppm/ºC	0.001 - 0.05
CSNL2010	1	1.5W @ 80ºC			0.0005 - 0.1
CSNL2512	2	2W @ 70ºC			0.0005 - 0.01

Performance Characteristics

Test	Test Method	Test Specification	Typical
Load Life	MIL-STD-502F-Method 108A RCWV at 70°C; 1.5h ON; 0.5h OFF Total 1024 ± 24h	± 1%	≤ 0.5%
Resistance to Soldering Heat	MIL-STD-202F-Method 210E 260 ± 5°C for 10 ± 1s	± 0.5%	≤ 0.25%
Solderability	MIL-STD-202F-Method 208H 245 ± 5°C for 2 ± 0.5s	minimum 95% coverage	> 95%
Thermal Shock	MIL-STD-202F-Method 107G -55°C to 150°C, 100 cycles	± 0.5%	≤ 0.5%
Short Time Overload	JIS-C-5202-5.5 5x rated power for 5s	± 0.5%	≤ 0.5%
Temperature Cycling	JIS-C-5202-7.4 -55°C: 30 min. 25°C: 2 to 3 min. 155°C: 30min. 25°C: 2 to 3 min.	± 0.5%	≤ 0.5%
Moisture Resistance	MIL- STD-202F-Method 106G	± 0.5%	≤ 0.5%
Insulation Resistance	MIL-STD-202F-Method 302 Apply 100Vdc for 1 minute	1MΩ minimum	≥ 1MΩ
Leach Resistance	-	90 seconds minimum	≥ 90 seconds

Operating Temperature Range: -55°C to +170°C

Power Derating Curve:



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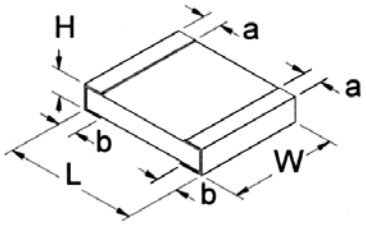
Mechanical Specifications



Type / Code	H Body Height	a Top Termination	b Bottom Termination	L Body Length	W Body Width	Unit
CSNL1206	0.025 ± 0.010 0.65 ± 0.25	0.020 ± 0.010 0.51 ± 0.25	0.020 ± 0.010 0.51 ± 0.25	0.126 ± 0.010 3.20 ± 0.25	0.063 ± 0.010 1.60 ± 0.25	inches mm
CSNL2010 (≤3mΩ)	0.031 ± 0.010 0.79 ± 0.25	0.051 ± 0.010 1.30 ± 0.25	0.051 ± 0.010 1.30 ± 0.25	0.200 ± 0.010 5.08 ± 0.25	0.100 ± 0.010 2.54 ± 0.25	inches mm
CSNL2010 (≥3.1mΩ)	0.025 ± 0.010 0.65 ± 0.25	0.031 ± 0.010 0.79 ± 0.25	0.031 ± 0.010 0.79 ± 0.25	0.200 ± 0.010 5.08 ± 0.25	0.100 ± 0.010 2.54 ± 0.25	inches mm
CSNL2512 (0.5mΩ)	0.049 ± 0.008 1.25 ± 0.20	0.051 ± 0.015 1.30 ± 0.38	0.051 ± 0.015 1.30 ± 0.38	0.250 ± 0.010 6.35 ± 0.25	0.125 ± 0.010 3.18 ± 0.25	inches mm
CSNL2512 (0.75mΩ)	0.030 ± 0.008 0.75 ± 0.20	0.051 ± 0.015 1.30 ± 0.38	0.051 ± 0.015 1.30 ± 0.38	0.250 ± 0.010 6.35 ± 0.25	0.125 ± 0.010 3.18 ± 0.25	inches mm
CSNL2512 (1.0mΩ)	0.026 ± 0.008 0.65 ± 0.20	0.051 ± 0.015 1.30 ± 0.38	0.051 ± 0.015 1.30 ± 0.38	0.250 ± 0.010 6.35 ± 0.25	0.125 ± 0.010 3.18 ± 0.25	inches mm
CSNL2512 (1.5mΩ)	0.018 ± 0.008 0.45 ± 0.20	0.051 ± 0.015 1.30 ± 0.38	0.051 ± 0.015 1.30 ± 0.38	0.250 ± 0.010 6.35 ± 0.25	0.125 ± 0.010 3.18 ± 0.25	inches mm
CSNL2512 (2.0mΩ)	0.014 ± 0.008 0.35 ± 0.20	0.051 ± 0.015 1.30 ± 0.38	0.051 ± 0.015 1.30 ± 0.38	0.250 ± 0.010 6.35 ± 0.25	0.125 ± 0.010 3.18 ± 0.25	inches mm
CSNL2512 (2.5mΩ)	0.026 ± 0.008 0.65 ± 0.20	0.051 ± 0.015 1.30 ± 0.38	0.051 ± 0.015 1.30 ± 0.38	0.250 ± 0.010 6.35 ± 0.25	0.125 ± 0.010 3.18 ± 0.25	inches mm
CSNL2512 (3mΩ)	0.022 ± 0.008 0.55 ± 0.20	0.051 ± 0.015 1.30 ± 0.38	0.051 ± 0.015 1.30 ± 0.38	0.250 ± 0.010 6.35 ± 0.25	0.125 ± 0.010 3.18 ± 0.25	inches mm
CSNL2512 (4mΩ)	0.018 ± 0.008 0.45 ± 0.20	0.051 ± 0.015 1.30 ± 0.38	0.051 ± 0.015 1.30 ± 0.38	0.250 ± 0.010 6.35 ± 0.25	0.125 ± 0.010 3.18 ± 0.25	inches mm
CSNL2512 (5mΩ)	0.014 ± 0.008 0.35 ± 0.20	0.051 ± 0.015 1.30 ± 0.38	0.051 ± 0.015 1.30 ± 0.38	0.250 ± 0.010 6.35 ± 0.25	0.125 ± 0.010 3.18 ± 0.25	inches mm
CSNL2512 (6mΩ)	0.013 ± 0.008 0.32 ± 0.20	0.051 ± 0.015 1.30 ± 0.38	0.051 ± 0.015 1.30 ± 0.38	0.250 ± 0.010 6.35 ± 0.25	0.125 ± 0.010 3.18 ± 0.25	inches mm
CSNL2512 (6.5mΩ)	0.012 ± 0.008 0.30 ± 0.20	0.051 ± 0.015 1.30 ± 0.38	0.051 ± 0.015 1.30 ± 0.38	0.250 ± 0.010 6.35 ± 0.25	0.125 ± 0.010 3.18 ± 0.25	inches mm
CSNL2512 (7mΩ)	0.011 ± 0.008 0.27 ± 0.20	0.051 ± 0.015 1.30 ± 0.38	0.051 ± 0.015 1.30 ± 0.38	0.250 ± 0.010 6.35 ± 0.25	0.125 ± 0.010 3.18 ± 0.25	inches mm
CSNL2512 (10mΩ)	0.010 ± 0.008 0.25 ± 0.20	0.051 ± 0.015 1.30 ± 0.38	0.051 ± 0.015 1.30 ± 0.38	0.250 ± 0.010 6.35 ± 0.25	0.125 ± 0.010 3.18 ± 0.25	inches mm

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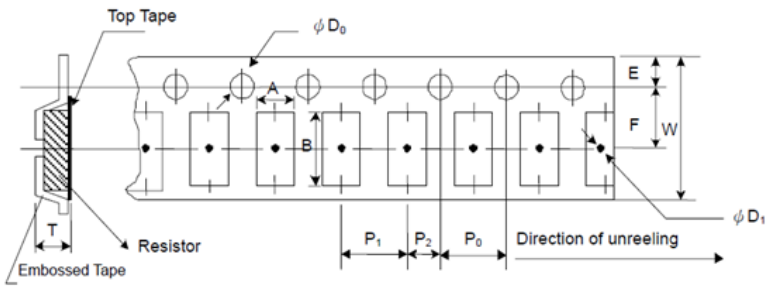
Taping Specifications – Embossed Plastic Tape



Type/Code	Ohmic Value (Ω)	Quantity	A	B	W	F	E	P0	Unit
CSNL1206	0.001 - 0.05	4,000	0.072 ± 0.004 1.83 ± 0.10	0.137 ± 0.004 3.48 ± 0.10	0.315 ± 0.006 8.00 ± 0.15	0.138 ± 0.004 3.50 ± 0.10	0.069 ± 0.004 1.75 ± 0.10	0.157 ± 0.004 4.00 ± 0.10	inches mm
CSNL2010	0.0005 - 0.01	2,000	0.114 ± 0.004 2.90 ± 0.10	0.215 ± 0.004 5.45 ± 0.10	0.472 ± 0.006 12.00 ± 0.15	0.217 ± 0.004 5.50 ± 0.10	0.069 ± 0.004 1.75 ± 0.10	0.157 ± 0.004 4.00 ± 0.10	inches mm
CSNL2512	0.0005 - 0.00075	2,000	0.134 ± 0.004 3.40 ± 0.10	0.266 ± 0.004 6.75 ± 0.10	0.472 ± 0.004 12.00 ± 0.10	0.217 ± 0.002 5.50 ± 0.05	0.069 ± 0.004 1.75 ± 0.10	0.157 ± 0.004 4.00 ± 0.10	inches mm
CSNL2512	0.001 - 0.01	2,000	0.134 ± 0.004 3.40 ± 0.10	0.266 ± 0.004 6.75 ± 0.10	0.472 ± 0.004 12.00 ± 0.10	0.217 ± 0.002 5.50 ± 0.05	0.069 ± 0.004 1.75 ± 0.10	0.157 ± 0.004 4.00 ± 0.10	inches mm

Type/Code	Ohmic Value (Ω)	Quantity	T	P1	P2	ØD0	ØD1	Unit
CSNL1206	0.001 - 0.05	4,000	0.043 ± 0.004 1.10 ± 0.10	0.157 ± 0.004 4.00 ± 0.10	0.079 ± 0.004 2.00 ± 0.10	0.059 ± 0.004 1.50 ± 0.10	-	inches mm
CSNL2010	0.0005 - 0.01	2,000	0.052 ± 0.004 1.33 ± 0.10	0.157 ± 0.004 4.00 ± 0.10	0.079 ± 0.004 2.00 ± 0.10	0.059 ± 0.004 1.50 ± 0.10	-	inches mm
CSNL2512	0.0005 - 0.00075	2,000	0.057 ± 0.008 1.45 ± 0.20	0.157 ± 0.004 4.00 ± 0.10	0.079 ± 0.002 2.00 ± 0.05	0.061 ± 0.002 1.55 ± 0.05	0.055 min. 1.40 min.	inches mm
CSNL2512	0.001 - 0.01	2,000	0.032 ± 0.004 0.81 ± 0.10	0.157 ± 0.004 4.00 ± 0.10	0.079 ± 0.002 2.00 ± 0.05	0.061 ± 0.002 1.55 ± 0.05	0.055 min. 1.40 min.	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)
CSNL	Metal Foil Current Sensing Surface Mount Chip Resistor	SMD	YES	100% Matte Sn over Ni	May-04	04/18

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"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	14
C	S	N	L	1	2	0	6	F	T	1	0	L	0

Product Series

Code	Description
CSNL	Metal Plate

Size

Code	Power
1206	1W
2010	1.5W
2512	2W

Tolerance

Code	Tol
F	1%
J	5%

Packaging

Code	Description	Size	Quantity
T	7" Reel - Plastic Tape	1206	4,000
		2010, 2512	2,000

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.

0.0005 Ohm = L500
0.001 Ohm = 1L00
0.01 Ohm = 10L0
0.1 Ohm = R100

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