

- Features:
- High power current sense resistor
 - TCR of ± 50 ppm/ $^{\circ}\text{C}$
 - Resistances down to 0.0005 (1/2 m Ω)
 - Current handling up to 63 amps
 - Non-standard resistance values available
 - RoHS compliant / lead-free

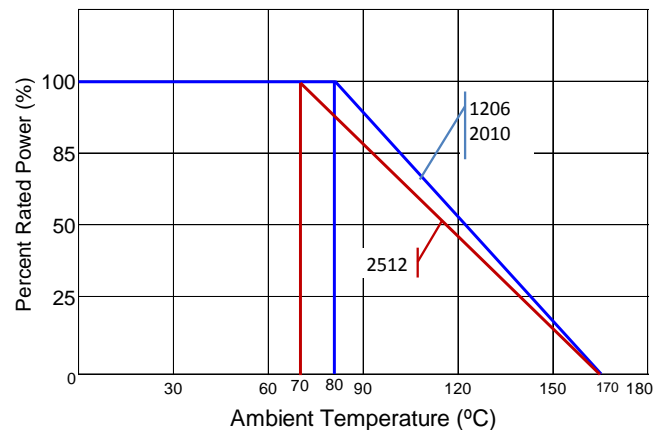


Electrical Specifications					
Type / Code	Old Pkg Code	Power Rating (Watts)	Dielectric Withstanding Voltage	Resistance Temperature Coefficient	Ohmic Range (Ω) and Tolerance
					1%, 5%
CSNL1206	1/2	1W @ 80 $^{\circ}\text{C}$	200V	± 50 ppm/ $^{\circ}\text{C}$	0.001 - 0.05
CSNL2010	1	1.5W @ 80 $^{\circ}\text{C}$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

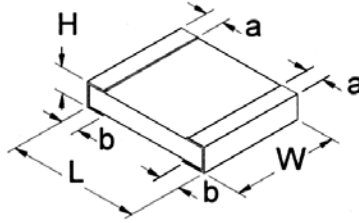
Performance Characteristics			
Test	Test Method	Test Specification	Typical
Load Life	MIL-STD-502F-Method 108A RCWV at 70 $^{\circ}\text{C}$; 1.5h ON; 0.5h OFF Total 1024 \pm 24h	$\pm 1\%$	$\leq 0.5\%$
Resistance to Soldering Heat	MIL-STD-202F-Method 210E 260 \pm 5 $^{\circ}\text{C}$ for 10 \pm 1s	$\pm 0.5\%$	$\leq 0.25\%$
Solderability	MIL-STD-202F-Method 208H 245 \pm 5 $^{\circ}\text{C}$ for 2 \pm 0.5s	minimum 95% coverage	> 95%
Thermal Shock	MIL-STD-202F-Method 107G -55 $^{\circ}\text{C}$ to 150 $^{\circ}\text{C}$, 100 cycles	$\pm 0.5\%$	$\leq 0.5\%$
Short Time Overload	JIS-C-5202-5.5 5x rated power for 5s	$\pm 0.5\%$	$\leq 0.5\%$
Temperature Cycling	JIS-C-5202-7.4 -55 $^{\circ}\text{C}$: 30 min. 25 $^{\circ}\text{C}$: 2 to 3 min. 155 $^{\circ}\text{C}$: 30min. 25 $^{\circ}\text{C}$: 2 to 3 min.	$\pm 0.5\%$	$\leq 0.5\%$
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	1M Ω minimum	$\geq 1\text{M}\Omega$
Leach Resistance	-	90 seconds minimum	≥ 90 seconds

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

Power Derating Curve:

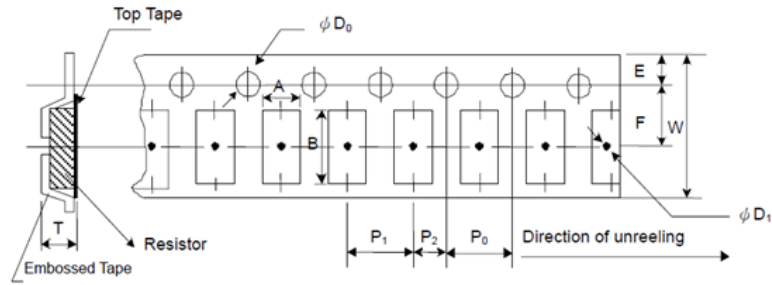


Mechanical Specifications



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

Packaging Specifications



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

Type/Code	Ohmic Value (Ω)	Quantity	T	P1	P2	ϕD_0	ϕD_1	Unit
CSNL1206	0.001 - 0.05	4,000	0.043 \pm 0.004	0.157 \pm 0.004	0.079 \pm 0.004	0.059 \pm 0.004	-	inches
			1.10 \pm 0.10	4.00 \pm 0.10	2.00 \pm 0.10	1.50 \pm 0.10	mm	
CSNL2010	0.0005 - 0.01	2,000	0.052 \pm 0.004	0.157 \pm 0.004	0.079 \pm 0.004	0.059 \pm 0.004	-	inches
			1.33 \pm 0.10	4.00 \pm 0.10	2.00 \pm 0.10	1.50 \pm 0.10	mm	
CSNL2512	0.0005 - 0.00075	2,000	0.057 \pm 0.008	0.157 \pm 0.004	0.079 \pm 0.002	0.061 \pm 0.002	0.055 min.	inches
			1.45 \pm 0.20	4.00 \pm 0.10	2.00 \pm 0.05	1.55 \pm 0.05	1.40 min.	mm
CSNL2512	0.001 - 0.01	2,000	0.032 \pm 0.004	0.157 \pm 0.004	0.079 \pm 0.002	0.061 \pm 0.002	0.055 min.	inches
			0.81 \pm 0.10	4.00 \pm 0.10	2.00 \pm 0.05	1.55 \pm 0.05	1.40 min.	mm

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		Size	Power	Tolerance		Packaging				Resistance Value	
CSNL	Metal Plate	1206	1W	Code	Tol	Code	Description	Size	Quantity	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	
		2010	1.5W	F	1%	T	7" Reel - Plastic Tape	1206	4,000		
		2512	2W	J	5%			2010, 2512	2,000		