



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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

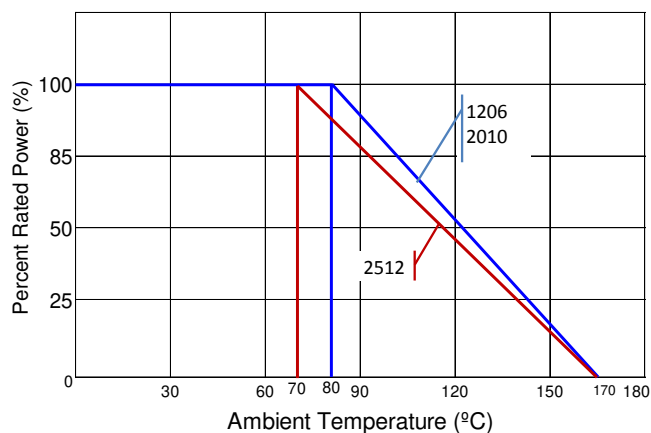


Electrical Specifications					
Type / Code	Old Pkg Code	Power Rating (Watts)	Dielectric Withstanding Voltage	Resistance Temperature Coefficient	Ohmic Range ( $\Omega$ ) and Tolerance
					1%, 5%
CSNL1206	1/2	1W @ 80 $^{\circ}\text{C}$	200V	$\pm 50$ ppm/ $^{\circ}\text{C}$	0.001 - 0.05
CSNL2010	1	1.5W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

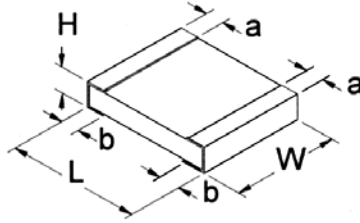
Performance Characteristics			
Test	Test Method	Test Specification	Typical
Load Life	MIL-STD-502F-Method 108A RCWV at 70 $^{\circ}\text{C}$ ; 1.5h ON; 0.5h OFF Total 1024 $\pm$ 24h	$\pm 1\%$	$\leq 0.5\%$
Resistance to Soldering Heat	MIL-STD-202F-Method 210E 260 $\pm$ 5 $^{\circ}\text{C}$ for 10 $\pm$ 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 $\Omega$ minimum	$\geq 1\text{M}\Omega$
Leach Resistance	-	90 seconds minimum	$\geq 90$ seconds

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

Power Derating Curve:

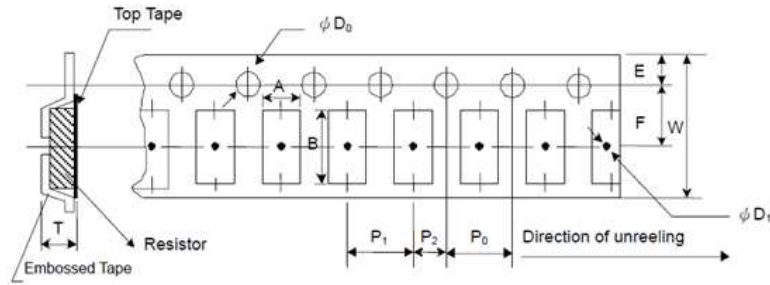


**Mechanical Specifications**



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 ± 0.004	0.137 ± 0.004	0.315 ± 0.006	0.138 ± 0.004	0.069 ± 0.004	0.157 ± 0.004	inches mm
			1.83 ± 0.10	3.48 ± 0.10	8.00 ± 0.15	3.50 ± 0.10	1.75 ± 0.10	4.00 ± 0.10	
CSNL2010	0.0005 - 0.01	2,000	0.114 ± 0.004	0.215 ± 0.004	0.472 ± 0.006	0.217 ± 0.004	0.069 ± 0.004	0.157 ± 0.004	inches mm
			2.90 ± 0.10	5.45 ± 0.10	12.00 ± 0.15	5.50 ± 0.10	1.75 ± 0.10	4.00 ± 0.10	
CSNL2512	0.0005 - 0.00075	2,000	0.134 ± 0.004	0.266 ± 0.004	0.472 ± 0.004	0.217 ± 0.002	0.069 ± 0.004	0.157 ± 0.004	inches mm
			3.40 ± 0.10	6.75 ± 0.10	12.00 ± 0.10	5.50 ± 0.05	1.75 ± 0.10	4.00 ± 0.10	
CSNL2512	0.001 - 0.01	2,000	0.134 ± 0.004	0.266 ± 0.004	0.472 ± 0.004	0.217 ± 0.002	0.069 ± 0.004	0.157 ± 0.004	inches mm
			3.40 ± 0.10	6.75 ± 0.10	12.00 ± 0.10	5.50 ± 0.05	1.75 ± 0.10	4.00 ± 0.10	

Type/Code	Ohmic Value (Ω)	Quantity	T	P1	P2	ØD0	ØD1	Unit
CSNL1206	0.001 - 0.05	4,000	0.043 ± 0.004	0.157 ± 0.004	0.079 ± 0.004	0.059 ± 0.004	-	inches mm
			1.10 ± 0.10	4.00 ± 0.10	2.00 ± 0.10	1.50 ± 0.10		
CSNL2010	0.0005 - 0.01	2,000	0.052 ± 0.004	0.157 ± 0.004	0.079 ± 0.004	0.059 ± 0.004	-	inches mm
			1.33 ± 0.10	4.00 ± 0.10	2.00 ± 0.10	1.50 ± 0.10		
CSNL2512	0.0005 - 0.00075	2,000	0.057 ± 0.008	0.157 ± 0.004	0.079 ± 0.002	0.061 ± 0.002	0.055 min.	inches mm
			1.45 ± 0.20	4.00 ± 0.10	2.00 ± 0.05	1.55 ± 0.05	1.40 min.	
CSNL2512	0.001 - 0.01	2,000	0.032 ± 0.004	0.157 ± 0.004	0.079 ± 0.002	0.061 ± 0.002	0.055 min.	inches mm
			0.81 ± 0.10	4.00 ± 0.10	2.00 ± 0.05	1.55 ± 0.05	1.40 min.	

**How to Order**

1	2	3	4	5	6	7	8	9	10	11	12	13	14
<b>C</b>	<b>S</b>	<b>N</b>	<b>L</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>6</b>	<b>F</b>	<b>T</b>	<b>1</b>	<b>0</b>	<b>L</b>	<b>0</b>

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 <sup>-3</sup> 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		