Data Sheet

Customer:	
Product:	Low Ohm (Metal Strip) Chip Resistor – LRP12H Series
Size:	2512
Issued Date:	19-Apr-21
Edition:	REV.A

RoHS Compliant

HONG KONG HELISTO INDUSTRIAL LIMITED
香港海利斯特实业有限公司

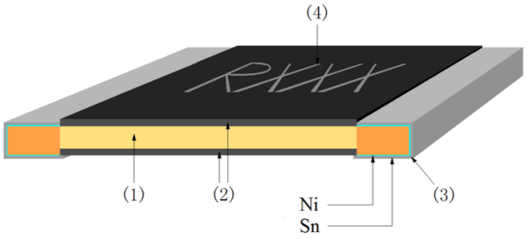
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19-Apr-21	19-Apr-21	19-Apr-21		
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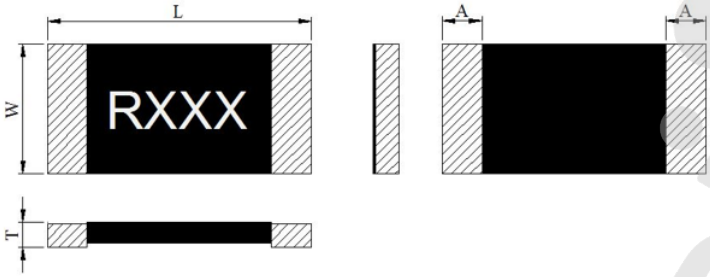
Low Ohm (Metal Strip) Chip Resistor- LRP12H Series

Construction



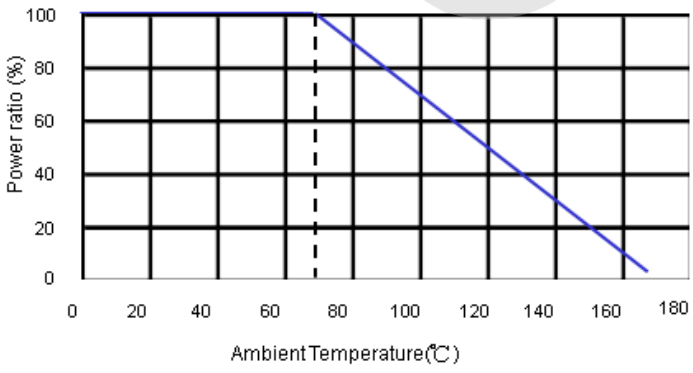
(1)	Resistive Element	(3)	Plating Layer
(2)	Protective Coating	(4)	Marking

Dimensions



Type	Size (Inch)	Resistance (mΩ)	L (mm)	W (mm)	T (mm)	A (mm)
LRP12H (2W)	2512	0.5-0.75	6.40±0.30	3.20±0.30	1.05±0.20	1.90±0.25
		1-1.5	6.40±0.30	3.20±0.30	0.90±0.20	1.90±0.25
		2-50	6.40±0.30	3.20±0.30	0.90±0.20	0.80±0.25
LRP12H (3W)		0.5-0.75	6.40±0.30	3.20±0.30	1.05±0.20	1.90±0.25
		1-4	6.40±0.30	3.20±0.30	1.10±0.20	0.80±0.25
		5-50	6.40±0.30	3.20±0.30	0.90±0.20	0.80±0.25

Derating Curve



■Part Numbering

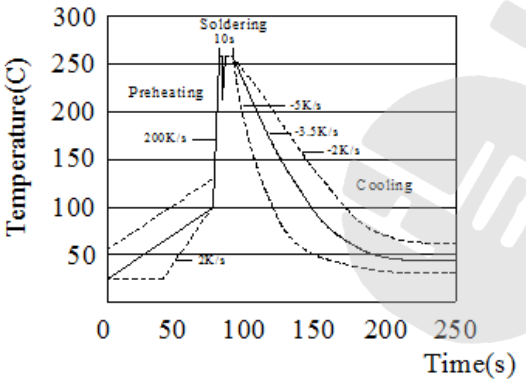
LRP	12	F	T	D	S	R015	H
Product Type	Dimensions (L×W)	Resistance Tolerance	Packaging Code	TCR (PPM/°C)	Power Rating	Resistance	Special Code
	12: 2512	F: ±1%	T: Taping Reel	D: ±50 E: ±100 K: ±150	R: 3W S: 2W	R015: 0.015Ω R050: 0.05Ω	H:LRP12H

■Electrical Specifications

Item / Type	Power Rating at 70°C	Operating Temp. Range	Resistance Range (mΩ) ±1%	TCR (PPM/°C)
LRP12H (2512)	2W	-55 ~ +170°C	0.5, 0.75	±150
			1, 1.5	±100
			2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 15, 20, 25,30, 35, 40,50	±50
	3W		0.5, 0.75	±150
			1	±100
			2, 3, 4, 5, 6, 7, 8, 9, 10, 15, 20, 25, 30, 35, 40,50	±50

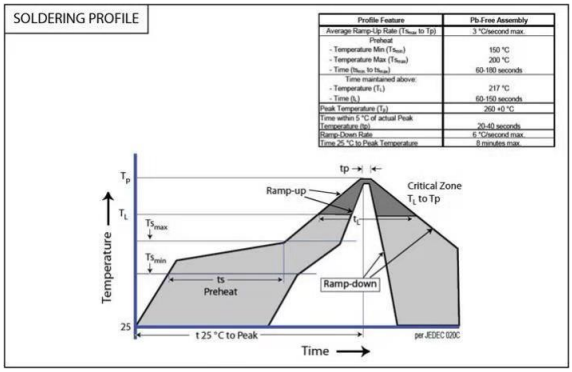
■LRP12H marking: Laser marking

■Recommended Customer Soldering Parameters



Wave Solder Temperature Condition

Preheating: 100~130°C, max. 100sec
Soldering: 250~265°C max. 10sec
Maximum temperature: 260±5°C, max. 10sec



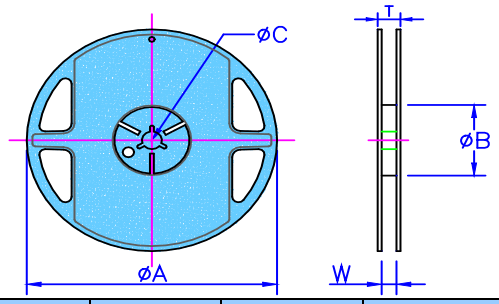
Solder Reflow Temperature Condition

■Environmental Characteristics

Item	Requirement	Test Method
Short Time Overload	±(1.0%+0.5mΩ)	**IEC60115-1 4.13** P=5.0Pr; t=25±2°C; t=5 sec
Endurance	±(2.0%+0.5mΩ)	**IEC60115-1 4.25** 70±2°C, Vtest=Vmax, 1000 hrs with 1.5 hrs “ON” and 0.5 hr “OFF”
Damp Heat with Load	±(2.0%+0.5mΩ)	**IEC60115-1 4.25** 60±2°C, Vtest=Vmax, 1000 hrs with 1.5 hrs “ON” and 0.5 hr “OFF”
High Temperature Exposure	±(1.0%+0.5mΩ)	**IEC60115-1 4.25** +170±2°C for 1000 hrs
Bending Strength	±(1.0%+0.5mΩ)	**IEC-60115-1 4.33** Span between fulcrums: 90mm ; Bend width: 2mm Test board: glass-epoxy board ; Thickness: 1.6mm
Solderability	95% min. coverage	**IEC-60115-1 4.17** 245±5°C for 3±0.5 seconds
Resistance to Soldering Heat	±(1.0%+0.5mΩ)	**IEC-60115-1 4.18** Through Reflow,3times, 260±5°C for 20±1 seconds
Thermal Shock	±(1.0%+0.5mΩ)	**IEC-60115-1 4.19** -55°C to +155°C, 100 cycles
Low Temperature Storage	±(1.0%+0.5mΩ)	**IEC60115-1 4.25** -55±2C for 1000 hrs
Mechanical Shock	±(1.0%+0.5mΩ)	**IEC60115-1 4.21** a=100G, t=6ms

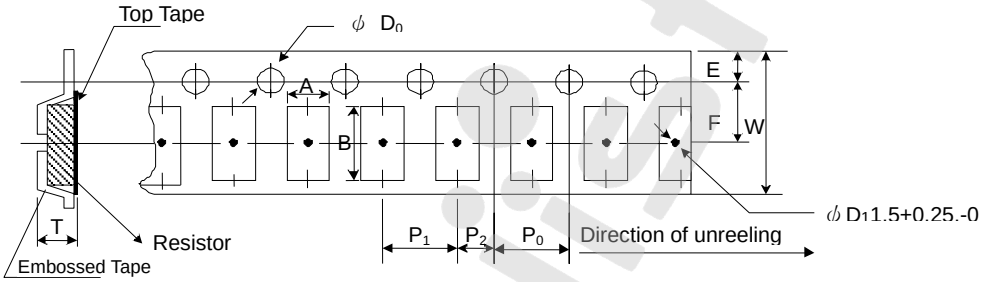
■Packaging

Reel Specifications & Packaging Quantity



Type	Resistance (mΩ)	Packaging Quantity		Tape Width	Reel Diameter	ΦA (mm)	ΦB (mm)	ΦC (mm)	W (mm)	T (mm)
LRP12H (2W)	0.5-0.75	Embossed	3K	12mm	7 inch	178.0±5.0	60±2.0	13.0±0.5	13.0±1.0	15.5±0.5
	1.5-50	Embossed	4K	12mm	7 inch	178.0±5.0	60±2.0	13.0±0.5	13.0±1.0	15.5±0.5
LRP12H (3W)	0.5-4	Embossed	3K	12mm	7 inch	178.0±5.0	60±2.0	13.0±0.5	13.0±1.0	15.5±0.5
	5-50	Embossed	4K	12mm	7 inch	178.0±5.0	60±2.0	13.0±0.5	13.0±1.0	15.5±0.5

Embossed Plastic Tape Specifications



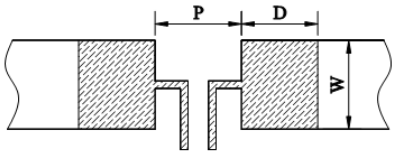
For 2W

Type	A (mm)	B (mm)	W (mm)	E (mm)	F (mm)	P0 (mm)	P1 (mm)	P2 (mm)	ΦD0 (mm)	T (mm)
LRP12H (0.5-0.75 mΩ)	3.40±0.20	6.75±0.20	12.0±0.30	1.75±0.10	5.5±0.05	4.00±0.10	4.00±0.10	2.00±0.10	1.55±0.10	1.50+0.2/-0.1
LRP12H (1-50 mΩ)	3.40±0.20	6.75±0.20	12.0±0.30	1.75±0.10	5.5±0.05	4.00±0.10	4.00±0.10	2.00±0.10	1.55±0.10	1.20±0.2

For 3W

Type	A (mm)	B (mm)	W (mm)	E (mm)	F (mm)	P0 (mm)	P1 (mm)	P2 (mm)	ΦD0 (mm)	T (mm)
LRP12H (0.5-4 mΩ)	3.40±0.20	6.75±0.20	12.0±0.30	1.75±0.10	5.5±0.05	4.00±0.10	4.00±0.10	2.00±0.10	1.55±0.10	1.50+0.2/-0.1
LRP12H (5-50 mΩ)	3.40±0.20	6.75±0.20	12.0±0.30	1.75±0.10	5.5±0.05	4.00±0.10	4.00±0.10	2.00±0.10	1.55±0.10	1.20±0.2

■Recommend Land Pattern



Type	Resistance (mΩ)	P (mm)	W (mm)	D (mm)
LRP12H (2W)	0.5-1	1.50	3.57	2.95
	2-50	3.18	3.57	2.11
LRP12H (3W)	0.5-0.75	1.50	3.57	2.95
	1-50	3.18	3.57	2.11