



RIDEE TECH COMPANY LIMITED

APPROVAL SHEET

Product Name : Metal Strip Low Ohm Chip Resistor

Part No. : RPL Series

Description : Size 1206, 2010, 2512

For more contact information, please refer to our website: www.rideetech.com

Metal Strip Low Ohm Chip Resistor — RPL Series

■ Application

- NB (for Power Management)
- MB (for Power Management)
- SWPS (DC-DC Converter, Charger, Adaptor)
- Monitor (for Power Management)



■ Features

- Ultra Low Resistance / Low TCR down to ± 25 PPM/ $^{\circ}$ C
- Wide resistor range
- Lead free and RoHS compliant
- AEC-Q200 Compliant

■ Parts Number Explanation

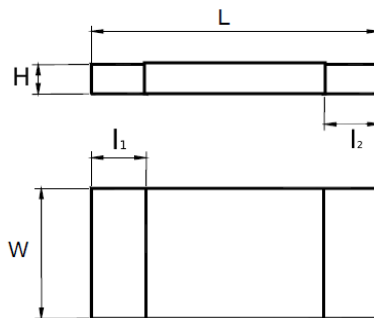
RPL	2512	20	F	R001	T	S
Product	Size (Inch)	Rated Power	Tolerance	Resistance	Packaging	Functional
Metal Strip Low Ohm Chip Resistor	1206 2010 2512	10=1.00W 20=2.00W 30=3.00W	D= $\pm 0.5\%$ F= $\pm 1\%$ J= $\pm 5\%$	R005=5m Ω R050=50m Ω R100=100m Ω	T=7" Taped & Reel	S= Standard Type U= Ultra High Power M= Meet AEC-Q200 UM= Ultra High Power Meet AEC-Q200

Standard Electrical Specifications

Item Type	Rating Power at 70°C	T.C.R. (ppm/°C)	Rated Terminal Temperature	Operating Temp. Range	Resistance Range (mΩ)
					0.5% (D) 1.0% (F) 5.0% (J)
RPL1206	1W	±50	110°C	-55 ~170°C	8, 10, 12, 15, 20, 25, 30, 33, 40
		±75 ±100			3, 4, 5, 7, 8, 10, 12, 15, 20, 25, 30, 33, 40
RPL 2010	1W	±75	110°C	-55 ~170°C	4, 5, 10, 15, 20, 30, 50, 68, 75, 100
	*2W				4, 5, 10, 15, 20, 30, 50, 68, 75
RPL 2512	2W *3W	±25	110°C	-55 ~170°C	3, 4, 5, 6, 7, 18, 20, 22, 25, 30, 33, 35, 39, 40, 47, 50, 60, 68, 70, 75, 80, 82, 90, 91, 100, 120, 150, 180, 200
		±50 ±75			1, 1.5, 2, 2.5, 3, 4, 5, 6, 7, 8, 8.5, 9, 10, 12, 15, 18, 20, 22, 25, 30, 33, 35, 39, 40, 47, 50, 60, 68, 70, 75, 80, 82, 90, 91, 100, 120, 150, 180, 200

- Operating Current = $\sqrt{P/R}$, Operating Voltage = $\sqrt{P \cdot R}$
- P : Rated Power (W) · R : Resistance Value(Ω)
- Standard Type functional code: S
- "*" Ultra High Power functional code: U
- Beyond the above specification also can meet the special requirements. For detail questions, please contact us freely.

Dimension

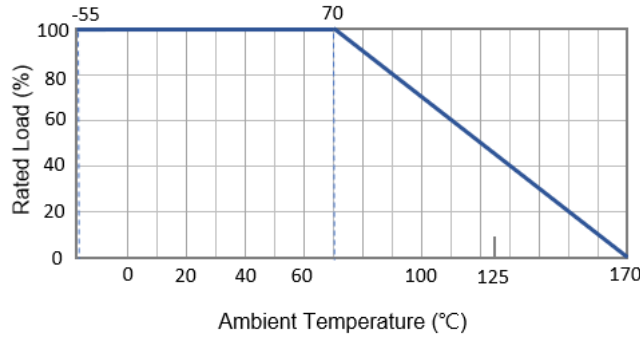


Unit : mm

Size	L	W	H	l1	l2
1206	3.15±0.10	1.45±0.10	0.55±0.10	0.55±0.15	0.55±0.15
2010	5.00±0.15	2.40±0.15	0.55±0.15	0.80±0.20	0.80±0.20
2512 (2~200mΩ)	6.40±0.25	3.20±0.25	0.70±0.20	0.90±0.30	0.90±0.30
2512 (1.5mΩ)	6.40±0.25	3.20±0.25	0.70±0.20	0.90±0.30	1.45±0.30
2512 (1mΩ)	6.40±0.25	3.20±0.25	0.70±0.20	0.90±0.30	1.85±0.30

■ Power Derating Curve

Operating Temperature Range: -55 to +170°C



■ Recommended Customer Soldering Parameters

■ Recommended IR Reflow Soldering Conditions

Preliminary heating: 150°C ~180°C, 120s max

Soldering: 220°C, 60s max

Peak temperature: 260°C, 10s max

■ Rating Current

The following equation may be used to determine the DC (Direct Current) or AC (Alternating Current) (RMS, root mean square value) of normal rated power. However, if the result value exceeds the highest current of regulated standards (paragraph 5), the highest normal rated power is to be used.

$$I = \sqrt{P/R}$$

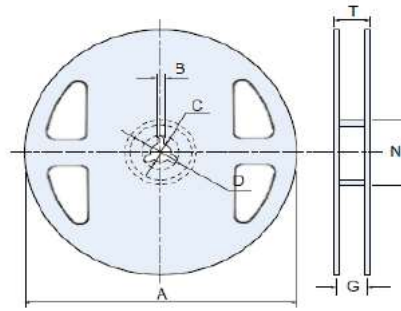
I = Rating current (A)
 P= Rating Power (W)
 R= Resistance(Ω)

■ Reliability Test and Requirement

Test Item	Test Method	Procedure	Requirements
Short Time Overload	IEC60115-1 4.13 JIS-C-5201-1 4.13	5 × Rated power for 5 seconds	±1.0%
Solderability	JIS-C-5201-1 4.17 IEC-60115-1 4.17	245±5°C molten solder bath for 3 sec.	Over 95% of termination must be covered with Solder
Resistance to Solder Heat	JIS-C-5201-1 4.18 IEC-60115-1 4.18	With 260±5°C for 10sec.	±0.5% No mechanical damage
Temperature Cycle	JIS-C-5201-1 4.19 IEC-60115-1 4.19	-55°C to +155°C, 5 cycles	±1.0% No mechanical damage.
Biased Humidity	MIL-STD-202 Method 103	1000hrs 85 °C /85%RH 10% of operating power	±1.0%
Temperature Coefficient of Resistance (TCR)	IEC60115-1 4.8 JIS-C-5201-1 4.8	+25°C ~125°C, 25°C is the reference temperature	Refer Rating Table.
Load Life	IEC60115-1 4.25 JIS-C-5201-1 4.25.1	Rated voltage for 1.5 hours then a pause 0.5 hours at T=70±2°C. Cycle repeated 1000 hours.	±1.0%
Insulation Resistance	IEC60115-1 4.6 JIS-C-5201-1 4.13	Test voltage: 100VDC for 1 minute	≥10G
Bending strength	JIS-C-5201-1 4.33 IEC-60115-1 4.33	Bending width 2mm once for 60 seconds	±1.0%
Dry Heat	IEC60115-1 4.23.2 JIS-C-5201-1 4.23.2	at +170°C for 1000 hrs	±1.0%
Low Temperature Storage	IEC60115-1 4.23.4 JIS-C-5201-1 4.23.4	at -55°C for 2 hrs	±1.0%

- Storage Temperature: 15~28°C; Humidity < 80%RH
- Shelf Life: 2 years from production date

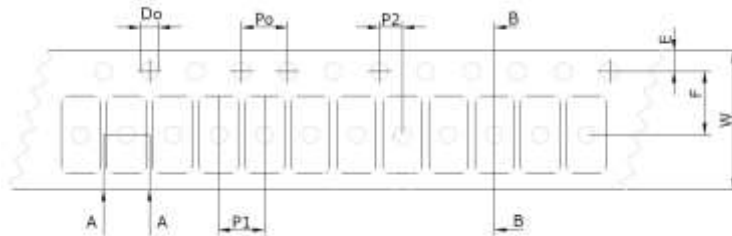
■ Packaging Information



Unit: mm

Size	Packaging Q'ty	A	N	C	D	B	G	T
1206	5kpcs/Reel	178.0±2.0	60.0±0.5	13.0±0.5	20(Min.)	2.0±0.5	10.0±1.5	14.9max.
2010	4kpcs/Reel	178.0±2.0	60.0±0.5	13.0±0.5	20(Min.)	2.0±0.5	13.8±1.5	16.7max.
2512	4kpcs/Reel	178.0±2.0	60.0±0.5	13.0±0.5	20(Min.)	2.0±0.5	13.8±1.5	16.7max.

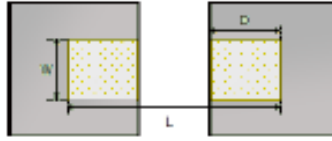
■ Tapping Specification



Unit: mm

Size	A	B	W	F	E	P1	P2	P0	D
1206	2.00±0.20	3.60±0.20	8.00±0.30	3.50±0.05	1.75±0.10	4.00±0.10	2.00±0.05	4.00±0.10	1.50±0.10
2010	2.80±0.10	5.50±0.20	12.0±0.30	5.50±0.05	1.75±0.10	4.00±0.10	2.00±0.05	4.00±0.10	1.50±0.10
2512	3.50±0.20	6.70±0.20	12.0±0.30	5.50±0.05	1.75±0.10	4.00±0.10	2.00±0.05	4.00±0.10	1.50±0.10

■ Recommend Land Pattern Design



Unit: mm

Type	L	D	W
RPL1206	4.30	1.40	1.70
RPL2010	6.40	1.40	2.50
RPL2512 (2~200mΩ)	8.00	2.00	3.50
RPL2512 (1~1.5mΩ)	7.60	2.65	3.50