



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/ $^{\circ}\text{C}$
- Wide resistor range
- Lead free and RoHS compliant
- AEC-Q200 Compliant

■ Parts Number Explanation

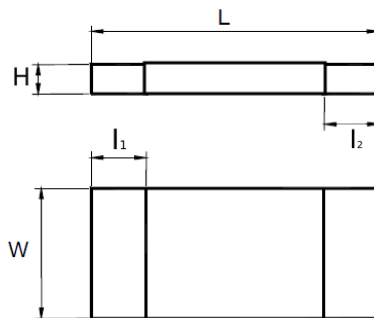
RPL	2512	20	F	R001	T	S
Product	Size (Inch)	Rated Power	Tolerance	Resistance	Packaging	Functional
Metal Strip Low Ohm Chip Resistor	1206 2010 2512	10=1.00W 20=2.00W 30=3.00W	D= $\pm 0.5\%$ F= $\pm 1\%$ J= $\pm 5\%$	R005=5m Ω R050=50m Ω R100=100m Ω	T=7" Taped & Reel	S= Standard Type U= Ultra High Power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

■ Standard Electrical Specifications

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

- 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

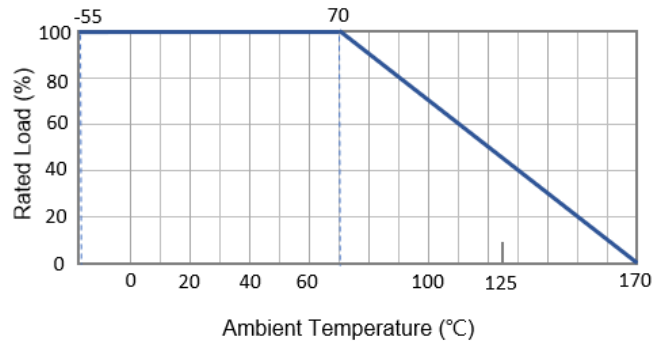


Unit : mm

Type	L	W	H	l ₁	l ₂
RPL1206	3.15±0.10	1.45±0.10	0.55±0.10	0.55±0.15	0.55±0.15
RPL2010	5.00±0.15	2.40±0.15	0.55±0.15	0.80±0.20	0.80±0.20
RPL2512 (2~200mΩ)	6.40±0.25	3.20±0.25	0.70±0.20	0.90±0.30	0.90±0.30
RPL2512 (1.5mΩ)	6.40±0.25	3.20±0.25	0.70±0.20	0.90±0.30	1.45±0.30
RPL2512 (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



■ Voltage Rating or Current Rating

The direct or alternating voltage for the rated power can be calculated from the following formula but must not exceed the maximum voltage.

$V = \text{Rated Voltage (V)}$

$V = \sqrt{P \times R}$

$P = \text{Rated Power (W)}$

$R = \text{Rated Resistance (}\Omega\text{)}$

■ Recommended Customer Soldering Parameters

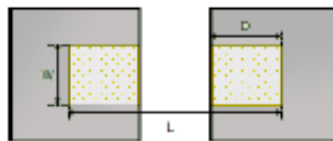
■ Recommended IR Reflow Soldering Conditions

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

Soldering: 220°C, 60s max

Peak temperature: 260°C, 10s max

■ Recommend Land Pattern Design



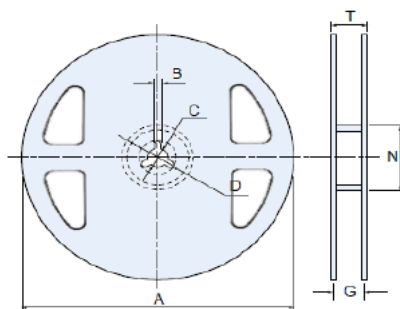
Unit : mm

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

■ 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°Cmolten 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°Cfor 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%

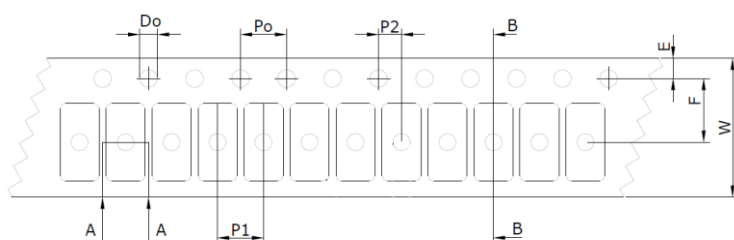
■ Packaging Information



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