



APPROVAL SHEET

YLRY-2512/1206 SERIES

Low Resistance Metal Strip Chip Resistors

Version	Date	Description of amendment	Draft	Checked
A1.0	06-Jun-2025	First edition release	黄文强	王磊
A1.1	29-Dec-2025	Adjust the resistance range of the YLRY12 pulse curve	鲁伟	程子鹏

1.Product Description

Product name:YLR-2512/1206 series

Description:YLR-2512/1206 series alloy chip resistors provide precise current sensing with low TCR and high power, ideal for automotive and industrial applications.

1.1 Part Number Explanation

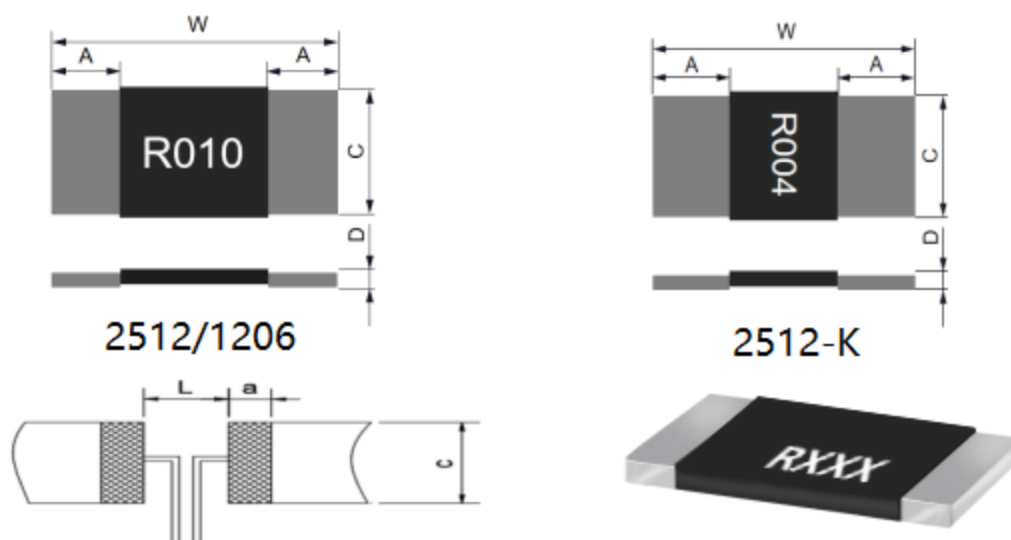
The part number of the high power precision resistor is identified by the type name, power, Terminal Size,tolerance, size and resistance value.

Example: YLR12-3-1F-K

Type	Size	Power	Resistance	Tolerance	Terminal Size
YLR	06=1206 12=2512	W2=0.5W 1=1W 2=2W 3=3W	1= 1mΩ 10=10mΩ 0=0mΩ	D= ± 0.5% F= ± 1% G= ± 2% J= ± 5% Z=0mΩ	(Blank) = Standard Terminal K= Big Terminal

- (1) **Type name:** YLR series
- (2) **Size:**06=1206;12=2512
- (3) **Power Rating:**1=1W;2=2W;3=3W
- (4) **Resistance:** 1=1mΩ;10=10mΩ; 0=0mΩ
- (5) **Tolerance:** D=±0.5%;F=±1%;G=±2%;J=±5%;Z=0mΩ
- (6) **Terminal Size:** (Blank) =Standard Terminal;K=Big Terminal

1.2 Products & Recommend Pad Dimension

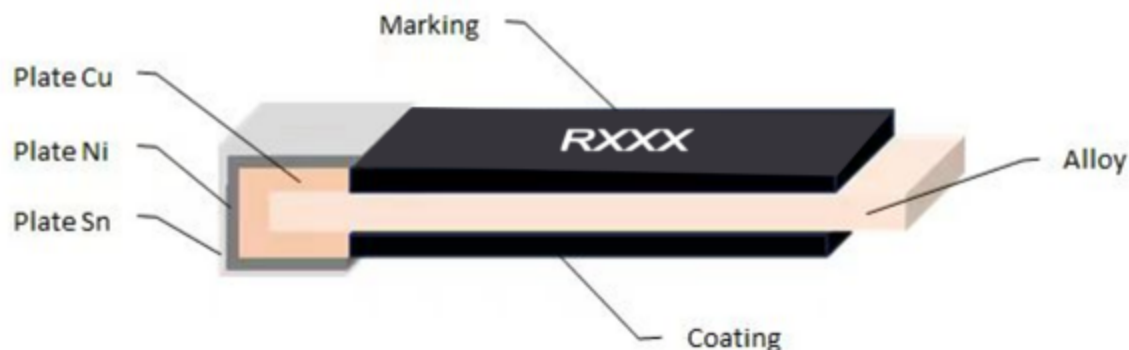


Unit/mm

Type	Resistance	W ± 0.2	C ± 0.2	A ± 0.2	D ± 0.2	L	a	c
YLR06	0~6m Ω	3.2	1.6	0.6	0.7	1.6	1.7	1.8
	6.5~100m Ω				0.55			
YLR12	0.5~500m Ω	6.4	3.2	1.0	0.8 ± 0.08	4.1	2.1	4
YLR12-K	0~4m Ω			2.2		1.3	3.1	

1.3 Item Construction

Electron-beam welded constructions



2. Standard Electrical Specifications

Type	Rated Power (W)	Resistance /mΩ	Resistance Tolerance (%)	TCR① (ppm/°C)	Operating Temperature (°C)
	P70°C				
YLR06	1	1~2.5	D: ±0.5% F: ±1% G: ±2% J: ±5%	±350	-55°C~170°C
		3~100		±50	
YLR12	2、3	0.5~1.5		±350	
		2~220		±50	
	2	221~500		±50	
YLR12-K	2、3	0.5~0.9		±350	
		1~4		±50	

Type	Rated Power (W)	Resistance /mΩ	Resistance Tolerance (%)	Max Rated Current (A)	Operating Temperature (°C)
	P70°C				
YLR06	1	≤0.2mΩ	Z: 0mΩ Jumper	70	-55°C~170°C
YLR12-K	2、3	≤0.2mΩ		80	

① TCR (ppm/°C) : Test was conducted from 20°C to 120°C while 20°C worked as the reference.

3. Endurance Test

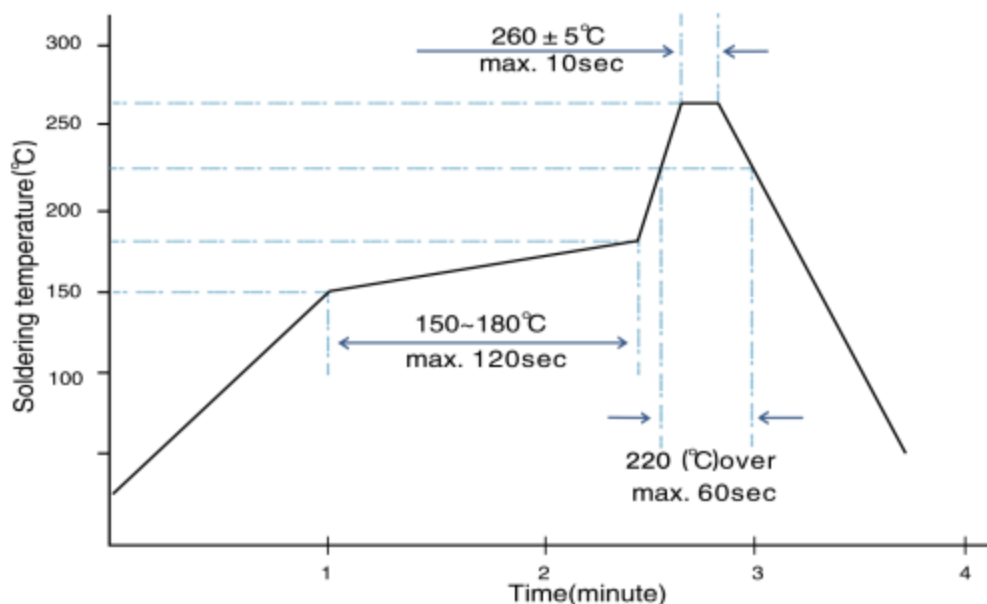


Items	Test Method (Refer to IEC 60115,60068; JIS-C 5201-1)	Specifications and Requirements
Temperature coefficient (TCR)	Resistance values were measured at 25°C(T1, R1) and 125°C(T2, R2), and TCR was calculated as $(R2-R1)/(R1 (T2-T1)) * 10^6$	Refer to TCR specifications for physical features
Short Time Overload	5 times rated power, maintain 5s	$\Delta R \leq \pm (1\%+0.05m\Omega)$
Insulation resistance	Apply 100V±15V DC voltage between electrode and substrate, hold for 60 seconds, then measure insulation resistance	> 100 MΩ
Withstand voltage	An alternating current with an effective value of the maximum overload voltage is applied between the electrode and the substrate at a rate of approximately 100V/S, maintaining 60±5s	No breakdown or arc
solderability	245°C±5°C tin tank, hold 2s±0.5s	At least 95% of surface area of electrode shall be covered with new solder
Resistance to Soldering Heat	270°C±5°C tin tank, hold for 10s±1s	$\Delta R \leq \pm (0.5\%+0.05m\Omega)$, no visible damage
Bending test	Bending distance 2mm, hold time 60s±5s	$\Delta R \leq \pm (0.5\%+0.05m\Omega)$ no mechanical damage
Solvent resistance	Isopropanol (IPA) at 23°C±5°C for 10 hours	No obvious damage to appearance
High	170°C±2°C, 1000H, stand for 1H, test the	$\Delta R \leq \pm$

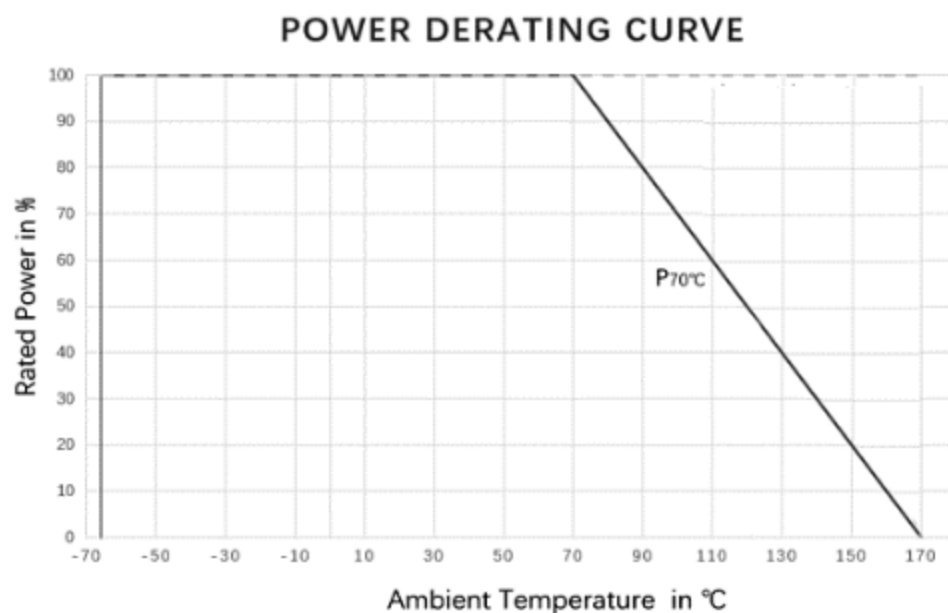


Items	Test Method (Refer to IEC 60115,60068; JIS-C 5201-1)	Specifications and Requirements
Temperature Exposure	resistance value	(1.0%+0.05mΩ)
Low Temperature Exposure	-55℃±2℃, 1000H, stand for 1H, test the resistance value	$\Delta R \leq \pm$ (0.5%+0.05mΩ)
Rapid change of Temperature	-55℃ 30 minutes ~ normal temperature 5 minutes ~155℃ 30 minutes, 1000 cycles	$\Delta R \leq \pm$ (0.5%+0.05mΩ)
Load Life	70℃±2℃, 1000 hours, rated power, 1.5 hours on / 0.5 hours off	$\Delta R \leq \pm$ (1.0%+0.05mΩ)
Moisture with Load	85℃±2℃, 85%±3%RH, 1000 hours, rated power, 1.5 hours on / 0.5 hours off	$\Delta R \leq \pm$ (1.0%+0.05mΩ)

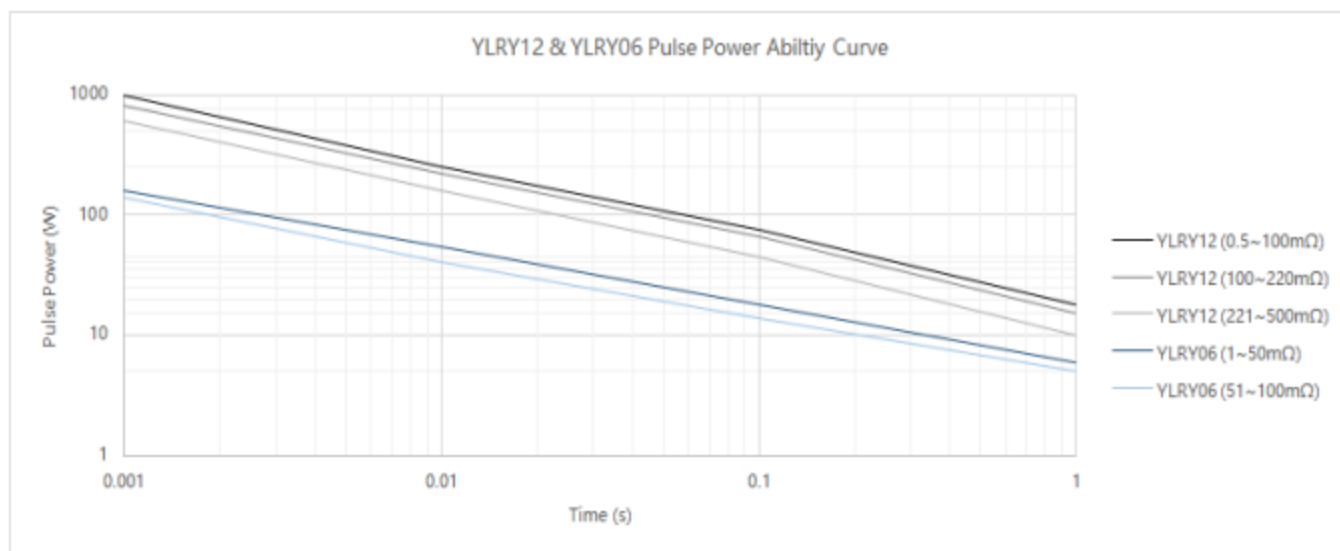
4.Solder Reflow Temperature Condition



5. Power Derating Curve



7. Pulse Capability Curve



8. Marking



White Printed Marking:

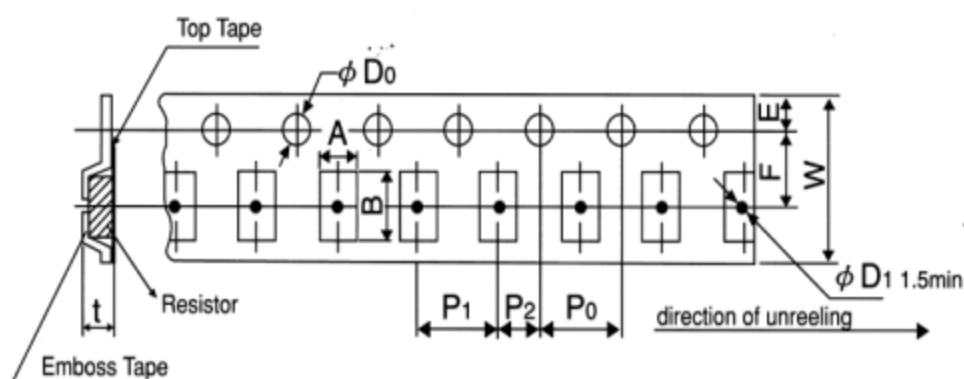
- All the products marking are 3 or 4 digits. 'R' designates the decimal location in ohms
E.g., :
- 0 = 0m Ω jumper; 5m Ω =R005; 50m Ω =R050

9.Packing

Storage Conditions: Storage Conditions: Temperature:5 $^{\circ}$ C~35 $^{\circ}$ C, Humidity:40%~75%

Storage life: 1 year;

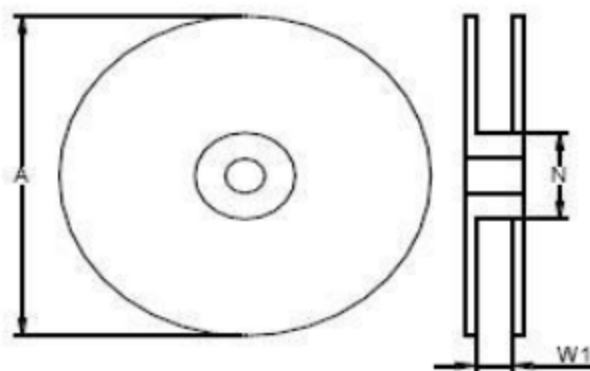
Packing Type: Embossed Plastic Tape



Unit/mm

Type	A $\pm$ 0.1 5	B $\pm$ 0.1	W $\pm$ 0.2	F $\pm$ 0.0 5	E $\pm$ 0.1	P1 $\pm$ 0.1	P2 $\pm$ 0.05	P0 $\pm$ 0.05	D0 $\pm$ 0.1	t $\pm$ 0.1	Qty /reel
YLRY 06	2	3.6	6.8	3.5	1.75	4	2	4	Φ 1.5	0.87 $\pm$ 0.05	5000
YLRY 12	3.5	6.8	12	5.5	1.75	4	2	4	Φ 1.5	1	4000
YLRY 12-K	3.5	6.8	12	5.5	1.75	4	2	4	Φ 1.5	1	4000

10.Reel & Tape Specifications



Unit/mm

Type	A	N	W1
YLR06	178±2	60±1	9±0.3
YLR012	178±2	60±1	13.3±0.5
YLR012-K	178±2	60±1	13.3±0.5

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