

HoJLR2512 Series Encapsulated Alloy Resistors Datasheet

■ Features

- ① Alloy Chip
- ② Encapsulation Process
- ③ Excellent Solderability
- ④ High Reliability
- ⑤ High load Capability
- ⑥ High Product Accuracy
- ⑦ Wide Operating Temperature Range, Non Inductive Design
- ⑧ RoHS Compliant and Halogen-Free



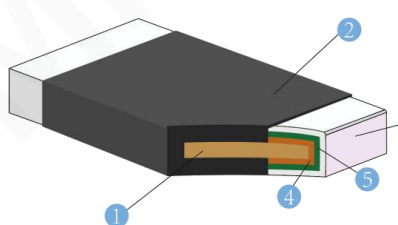
■ Scope of Application

- ① power module
- ② variable frequency drive
- ③ Industrial Instrumentation
- ④ Servo Drive Systems
- ⑤ Automated control systems

■ Electrical parameters

Size	Rated Power	Resistance Value	T.C.R.	Operating Temp. Range	Resistance Tolerance	Maximum Rated Current	Maximum overload current
JLR2512	2W 3W	0R	/	-55°C~+170°C	±0.5%	/	/
		R≤1mΩ	±100 ppm/°C		±1%		
		1mΩ < R≤500mΩ	±50 ppm/°C		±5%		
						2.45A~77.45A	5.47A~173.20A

■ Product Construction

	serial number	Part Name
	1	Alloy Resistive
	2	Encapsulated Layer
	3	Sn Layer
	4	Cu Layer
	5	Ni Layer



■ Part Number Selection

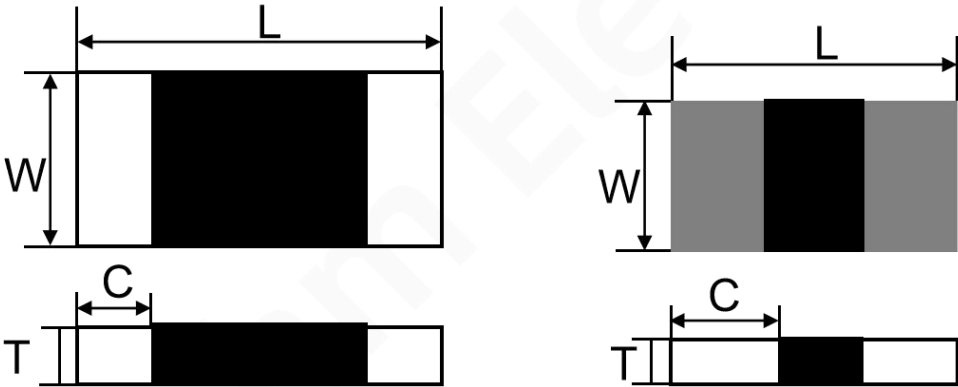
Example: HoJLR2512-3W-10mR-1%

Encapsulated alloy resistor 2512 3W 10mΩ 1% Conventional small electrodes

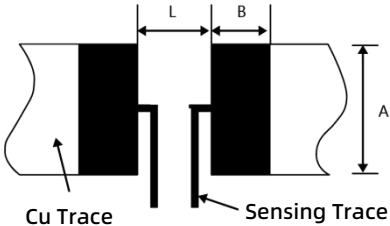
H	o	J	L	R	2	5	1	2	3	W	1	0	m	R	1	%	
↓		↓		↓		↓		↓		↓		↓		↓		↓	
Manufacturer	Series				Encapsulated alloy		Rated Power		Resistance Value		Tolerance		Pad				
Milliohm	Encapsulated alloy				2512		2W 3W		0.5-500mR		±0.5% ±1% ±5%		"s" represents large electrode(standard small electrode will not display)				

For specific parameters, please check the details on the following page

■ Product Dimensions (mm)

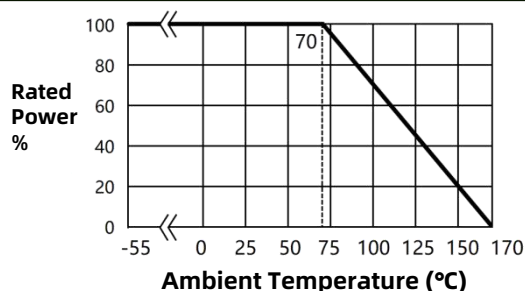
					
Size	Resistance	L	W	C	T
2512	0.5~500mR	6.4±0.2	3.2±0.2	0.9±0.2	0.9±0.2
2512 (S)	0~4mR	6.4±0.2	3.2±0.2	2.1±0.2	0.9±0.2

■ Recommended Land Pattern

	Resistance	A	L	B
	0.5mΩ~500mΩ	4.0±0.1	4.1±0.1	2.1±0.1
	(S) 0Ω~4mΩ	4.0±0.1	1.3±0.1	3.1±0.1

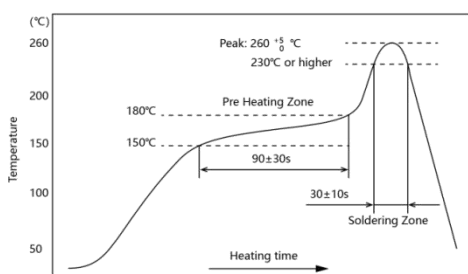
Derating Curve

When the resistor is operated at temperatures above 70°C, the rated power must be derated according to the Following curve

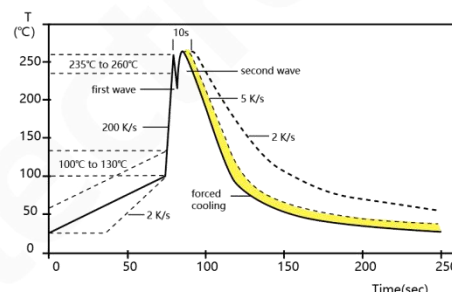


Soldering Recommendations

Preheat: 150 to 180°C, 90 ± 30 seconds; Soldering Zone: 230°C or higher, 30 ± 10 seconds; Peak: 260 ± 5°C, 5 seconds.



IR Reflow-Soldering Profile



Wave- Soldering Profile

Reliability Testing

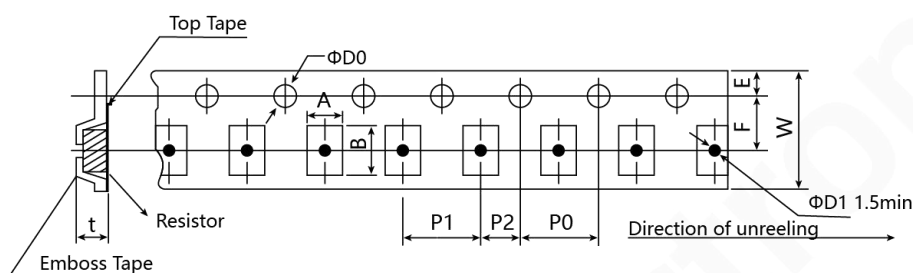
Test Item	Standard	Test Conditions	Test Limit
Temperature Coefficient of Resistance	IEC60115-1-4.8 JIS-C5201-4.8	+25°C~+125°C	Refer 4.0
Load Life	IEC60115-1-4.25.1 JIS-C5201-4.25.1	1000 hours at rated power, 70°C, 1.5 hours "on", 0.5 hours "off"	<±1%
Short Time Overload	IEC60115-1-4.13 JIS-C5201-4.13	5 times rated power, 5 seconds	<±1%
Unloaded Humidity	IEC60115-1-4.24.2.1a) JIS-C5201-4.24.2.1a)	85°C, 85% relative humidity, 1000 hours	<±1%
Temperature Cycling	IEC60115-1-4.19 JIS-C5201-4.19	-55°C to +170°C, 1000 cycles, 15 minutes at each extreme condition	<±1%
Resistance to Soldering Heat	IEC60115-1-4.18 JIS-C5201-4.18	260 ± 5°C, 10 ± 1 seconds	<±0.5%
Solderability	IEC60115-1-4.17 JIS-C5201-4.17	245 ± 5°C, 2 ± 0.5 seconds	At least 95% of the electrode surface should be covered with new solder
High Temperature Exposure	IEC60115-1-4.23.2 JIS-C5201-4.23.2	170°C, 1000 hours	<±1%
Low Temperature Storage	IEC60115-1-4.23.4 JIS-C5201-4.23.4	-55°C, 1000 hours	<±1%
Substrate Bending	IEC60115-1-4.33 JIS-C5201-4.33	2mm bending width	<±0.5%
Insulation Resistance	IEC60115-1-4.6 JIS-C5201-4.6	100V DC for 1 minute	>100MΩ

■ Rated current calculation formula

Rated current calculation formula

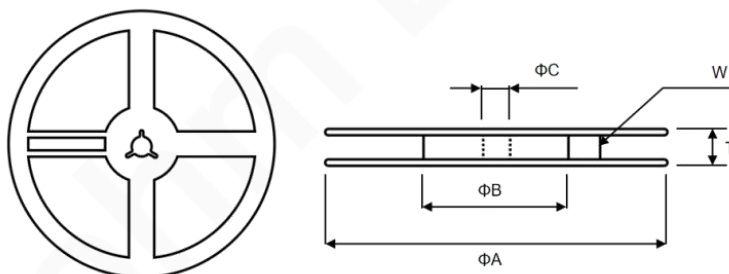
$I = \sqrt{P/R}$	I	P	R
	Rated Current(A)	Rated Power(W)	Resistance(Ω)

■ Tape Specifications



A	B	W	F	E	P1	P2	P0	D0	T
3.6±0.2	6.9±0.2	12±0.2	5.5±0.05	1.75±0.1	4.0±0.1	2±0.05	4±0.05	Φ1.55±0.1	0.85±0.15

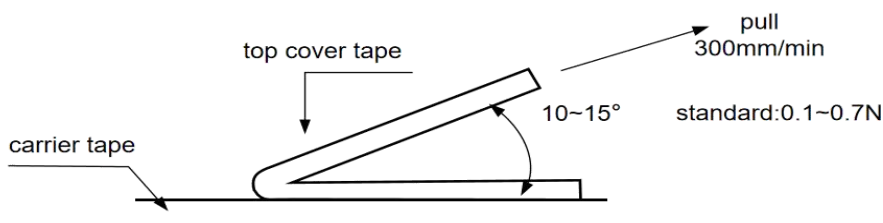
■ Reel Specifications



ΦA	ΦB	ΦC	W	T	plaiting and rewinding
178±2	60±1	13±1	9±1	15.4±2	4000PCS

■ Peeling Strength of Top Cover Tape

Peel test: peel speed 300 mm/min; peel force 0.1N-0.7N



■ Usage Precautions

- ◆ During the use of the product, pay attention to surface protection to prevent defects such as bumps and scratches on the product surface.
- ◆ When installing and using the product, avoid the product from being affected by mechanical stress.
- ◆ The long-term power of the product should be less than or equal to the rated power to avoid resistance drift caused by long-term overload.
- ◆ When using the product under high temperature or poor heat dissipation conditions, refer to the power consumption reduction curve for derating application.

■ Storage Instructions

- ◆ Product storage environment temperature is 5~35°C, humidity <60% RH, and humidity should be kept as low as possible.
- ◆ The product should be stored in a clean , dry& harmful gases free environment.
- ◆ Avoid removing the product from the packaging before use.
- ◆ Under the above storage conditions, the product can be guaranteed 1 year.

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■ Revision of curriculum vitae:

Version number	Revision date	Contents of the modification	Reason for modification	Reviewer
Ho-A1	2021-10-22	Replacement size specification	product harmonization	HUANG YONGKANG
Ho-A2	2021-11-22	Replacement of short time overload test multiplier	Product Optimization	HUANG ZONGLIANG
Ho-A3	2022-03-28	Elimination of large pad specifications	product harmonization	HUANG YONGKANG
Ho-A4	2024-06-01	Reliability Test Program Content Update	Product Optimization	HUANG YONGKANG
Ho-A5	2024-07-29	Increase the resistance value of large pads by 0.5 to 4 mR.	Product upgrades Harmonization of formats	HUANG YONGKANG
		Uniform resistance dimensions and tolerances		
		Change of temperature range and updating of specification content layout		
Ho-A6	2024-11-14	Updated specification content layout	Harmonization of formats	HUANG YONGKANG
Ho-A7	2024-12-13	Electrical parameters increase the maximum overload current and application range	Content Updates	HUANG YONGKANG