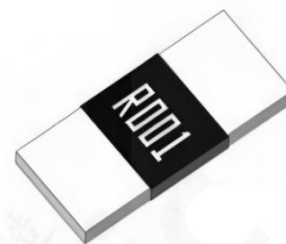


HoJLR2010 Series Encapsulated Alloy Resistors Datasheet

■ 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



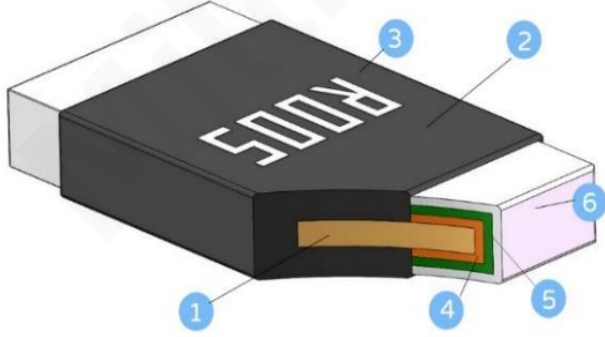
■ Scope of Application

- 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
2010	1.5W	$1\text{m}\Omega < R \leq 100\text{m}\Omega$	$\pm 50 \text{ ppm}/^\circ\text{C}$	$-55^\circ\text{C} \sim +170^\circ\text{C}$	$\pm 0.5\%$	38.73A
					$\pm 1\%$	
2010 (S)		$1\text{m}\Omega < R \leq 3\text{m}\Omega$			$\pm 2\%$	
					$\pm 5\%$	

■ Product Construction

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



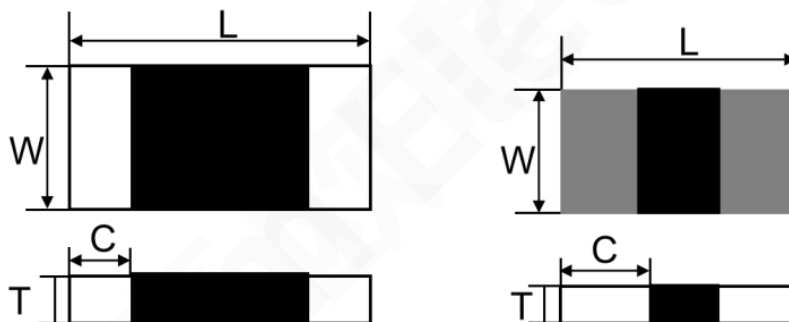
■ Part Number Selection

Example: HoJLR2010-1.5W-10mR-1% Encapsulated alloy resistor2010 1.5W 10mΩ 1% small electrode

Manufacture	Series	Encapsulated alloy	Rated Power	Resistance Value	Tolerance	
Milliohm	Encapsulated alloy	2010	1.5W	1mR-100mR	±0.5% ±1% ±2% ±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
2010	1~100mR	5.0±0.2	2.5±0.2	0.6±0.3	0.6±0.2
2010(S)	1~3mR	5.0±0.1	2.5±0.2	1.5±0.3	0.6±0.2

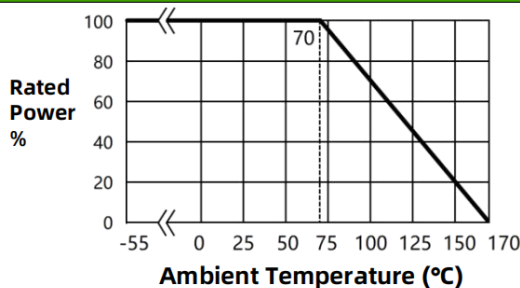
■ Recommended Land Pattern

The diagram shows a cross-section of a test piece with a central gap. The total width is labeled 'L', the gap width is 'B', and the height is 'A'. The left side is labeled 'Cu Trace' and the right side is labeled 'Sensing Trace'.

Resistance	A	L	B
1mR~100mR	3.4±0.2	1.5±0.2	3.5±0.2
(S) 1mR~3mR	3.4±0.1	3.5±0.2	2.0±0.2

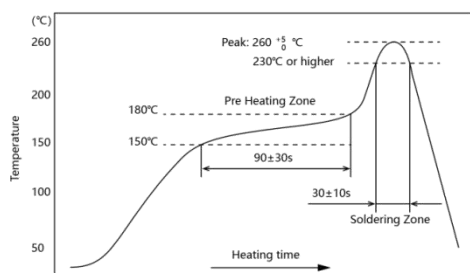
Derating Curve

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

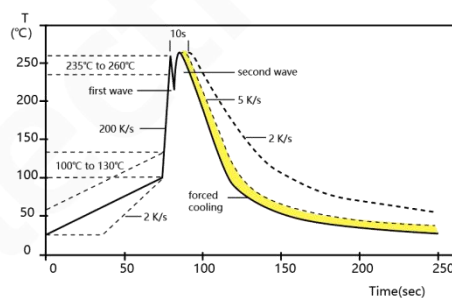


Soldering Recommendations

IR Reflow-Soldering Profile



Wave- Soldering Profile



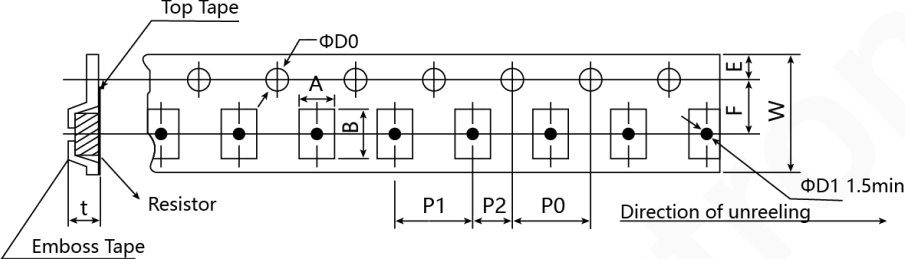
Reliability Testing

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

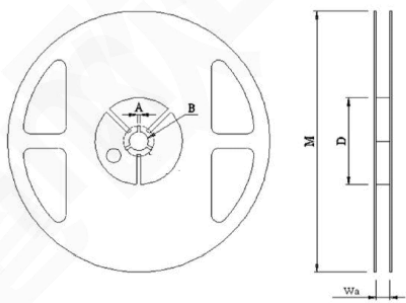
■ Rated current calculation formula

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

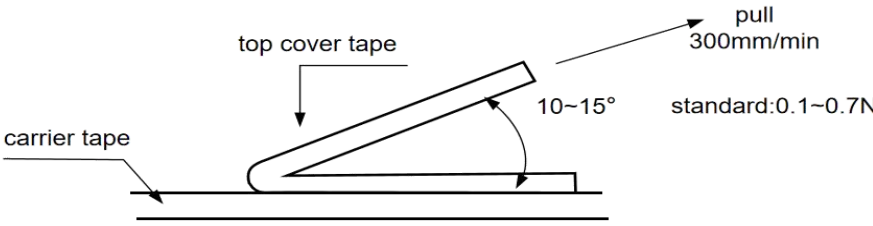
■ Tape Specifications

										
A	B	W	F	E	P1	P2	P0	D0	T	
2.8±0.2	5.3±0.2	12±0.2	5.5±0.05	1.75±0.1	4.0±0.1	2±0.05	4±0.05	Φ1.5+0.1	0.85±0.15	

■ Reel Specifications

					
ΦD	ΦM	ΦB	W	A	plaiting and rewinding
60±1	178±2	13.5±1	13.8±1	2±0.5	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	2024-11-14	Updated specification content layout	Harmonization of formats	HUANG YONGKANG
Ho-A2	2025-03-15	Large Electrode Resistance Range Updated and Increased Applications	Product upgrades Harmonization of formats	HUANG YONGKANG