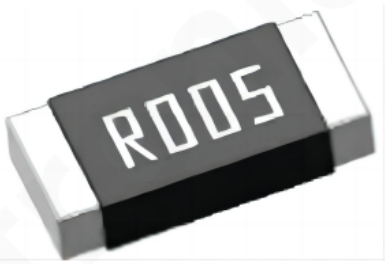
HoLLR2512 Series Encapsulated Alloy Resistors Datasheet

■ Features

① Thick copper conductor
② Metallized material
③ Ultra-long term stability
④ Halogen free and lead free ROHS compliant
⑤ Stable materials
⑥ High power rating
⑦ Ultra-low temperature coefficient
⑧ Excellent Reliability



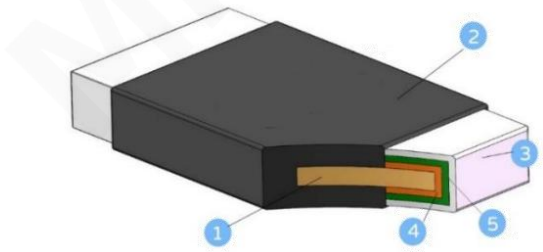
■ Areas of application

① Digital Products
②Battery level
③ Smart home
④ Consumer Electronics
⑤ LED applications, motherboards
⑥ Power adapter
⑦ Power tools, lithium protection
⑧ Large appliances, cleaning appliances
⑨ Current Sensing and Voltage Dividing

■ Product Electrical Parameters

Size	Rated Power	Resistance Value	T.C.R.	Operating Temp. Range	Resistance Tolerance	Maximum Rated Current
LLR2512	2W 3W	0R	/	-55℃~+170℃	±1%	/
		R≤1mΩ	±275 ppm/℃		±2%	77.5A
		1mΩ < R≤500mΩ	±50 ppm/℃		±5%	

■ Product Construction



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

High-tech enterprises IATF16949 ISO9001 RoHS REACH

■ Part Number Selection

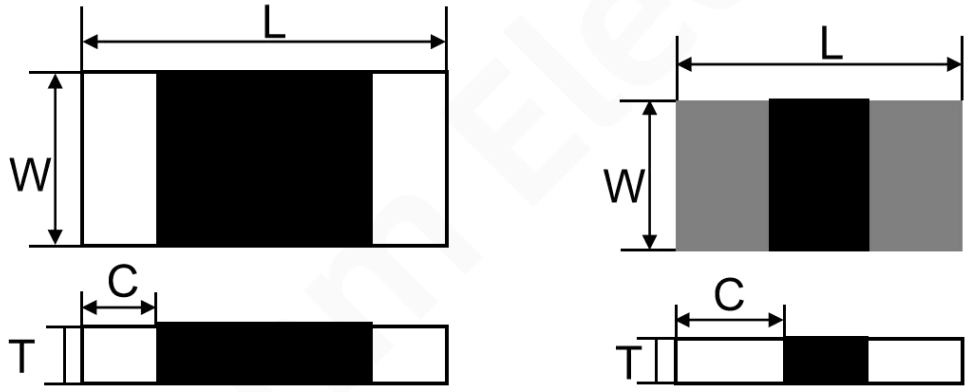
Example: HoLLR2512-3W-10mR-1%	Encapsulated alloy resistor2512 3W 10mΩ 1% Conventional small electrodes

H o L L R 2 5 1 2 3 W 1 0 m R 1 %

Manufacture	Series	Packaging Size	Rated Power	Resistance Value	Tolerance	Pad
Milliohm	Encapsulated alloy	2512	3W	0R-500mR	±1.0% ±2.0% ±5.0%	S = Large electrode (Conventional small electrodes are not displayed by default without letters)

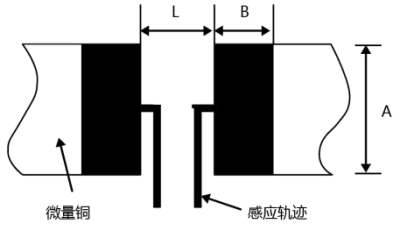
For specific parameters, please check the details on the following page

■ 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）	0R~4mR	6.4±0.2	3.2±0.2	2.1±0.2	0.9±0.2

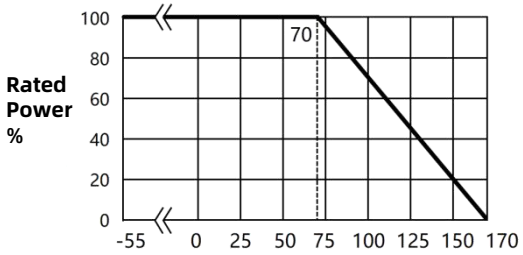
■ Recommended Land Pattern



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

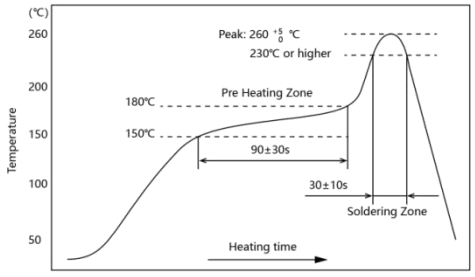
■ Derating Curve

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

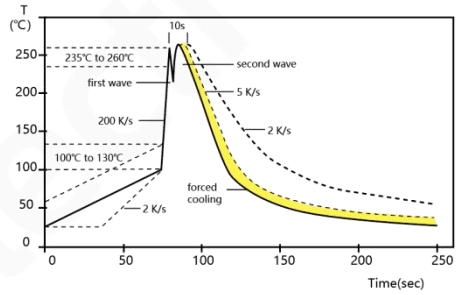


■ Soldering Recommendations

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

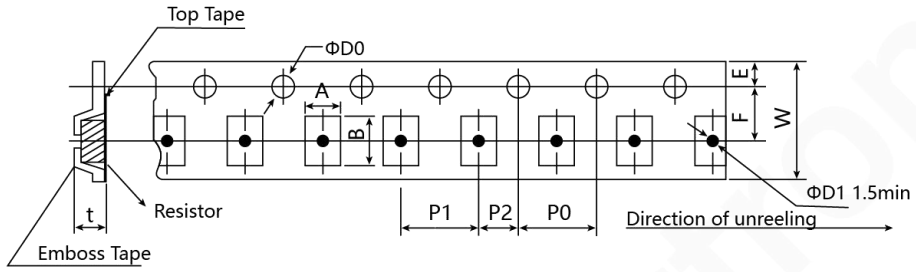
■ Reliability Testing

Test Item	Standard	Test Conditions	Test Limit
Short Time Overload	JIS-C 5201	Five times the rated power, five seconds	<±0.5%
Temperature Coefficient	JIS-C 5201	+25°C~+125°C	Refer to 6.
High temperature and high humidity	MIL-STD-202	85°C, 85% relative humidity, 1000 hours, loaded with 10% rated power	<±0.5%
Temperature Cycling	JIS-C 5201	After cycling 1000 times at -55°C to +125°C, take it out and let it stand for 24±4 hours	<±0.5%
Solvent resistance	JIS-C 5201	Immerse in isopropyl alcohol solvent at 20-25°C for 60±5 seconds	<±0.5%
Low-temperature storage	JIS-C 5201	1000 hours in a constant temperature box at -55±2°C	<±0.5%
High-temperature placement	JIS-C 5201	1000 hours in an oven at 170°C	≤±1.0%
Load life	JIS-C 5201	At rated power for 1000 hours, at 70°C, "on" for 1.5 hours and "off" for 0.5 hours	≤±1.0%
Resistant to solder heat	MIL-STD-202	260±5°C, 10±1 seconds	≦±0.5%
Solderability	L-STD-002	Immerse in a furnace at 245±5°C for 3 ±1 seconds	The area of the electrode coated with new tin should be greater than 95%
IInsulation resistance test	JIS-C 5201	Place it on the fixture and apply 100VDC to the positive and negative poles for one minute	>100MΩ
Solder bonding strength	JIS-C 5201	Weld it into the bending test plate, place it on the bending test machine, and apply force to press down in the center of the test plate under the load Measure the rate of change of the resistance value.	≦±0.5% There is no damage to the appearance.

■ Rated current calculation formula

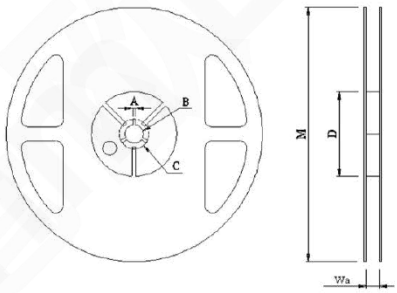
Rated current calculation formula			
$I=\sqrt{P/R}$	I	P	R
	Rated Current(A)	Rated Power(W)	Resistance(Ω)

■ 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	Φ1.5+0.1	1.2±0.15

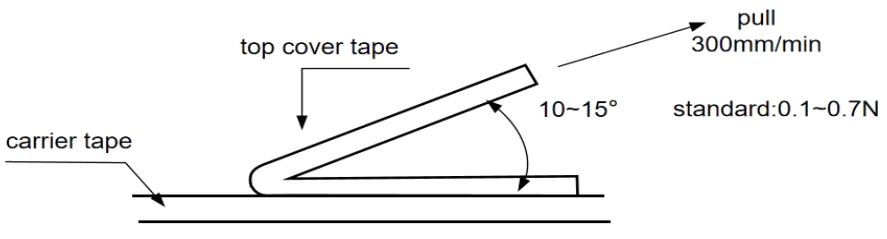
■ Reel Specifications



ΦD	ΦM	ΦB	ΦC	W	A	plaiting and rewinding
80±1	178±2	13.5±0.5	21±0.5	13.8±0.5	2±0.5	4000 PCS

■ 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℃, 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	2022-01-25	Add the size drawing of 3W-0.5mR	Product upgrades	HUANG YONGKANG
Ho-A2	2023-09-08	Replace the temperature drift of the product	Product upgrades	HUANG YONGKANG
Ho-A3	2024-07-29	IIntegrate the specification sheets of large and small electrodes	Uniform format	HUANG YONGKANG
		Update the resistance value temperature drift range		
		Update the content layout of the specification sheet		
Ho-A4	2024-11-14	Update the content layout	Uniform format	HUANG YONGKANG
Ho-A5	2025-03-15	Update the application scope and increase the resistance value of 0R	Format unification and product upgrade	HUANG YONGKANG