Specification

Manufacturer:Shenzhen Milliohm Electronic Co., Ltd HoLLR1206

Application：This datasheet applies to the HoLLR1206 series of alloy resistors.

■ Features

Thick copper conductor, metallized material, super long-term stability, halogen free lead free RoHS, stable material, high rated power, low resistance temperature coefficient, excellent reliability.

■ Application field

Battery Management System (BMS), Electrical influenza measurement and partial voltage, Power supply, New energy vehicles, consumer chargers, power tools, consumer electronics, LED applications, smart home, host board, large household appliances, Lithium battery protection.

■ Product Name

Alloy Resistors■

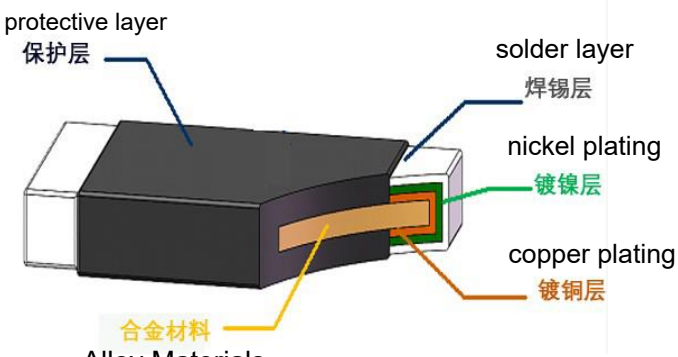
Product number

HOLLR1206-1W-10mR-1%

Ho	LLR	1206	1W	10mR	1%
Manufacturers	Series	package size	Rated power	Resistance	Precision
Milliohm electronic	LLR Series	1206	1/2W、1W	1mR~100mR	B=±0.1% D=±0.5% F=±1% G=±2% J=±5%

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

Product Structure: (Printing omitted)



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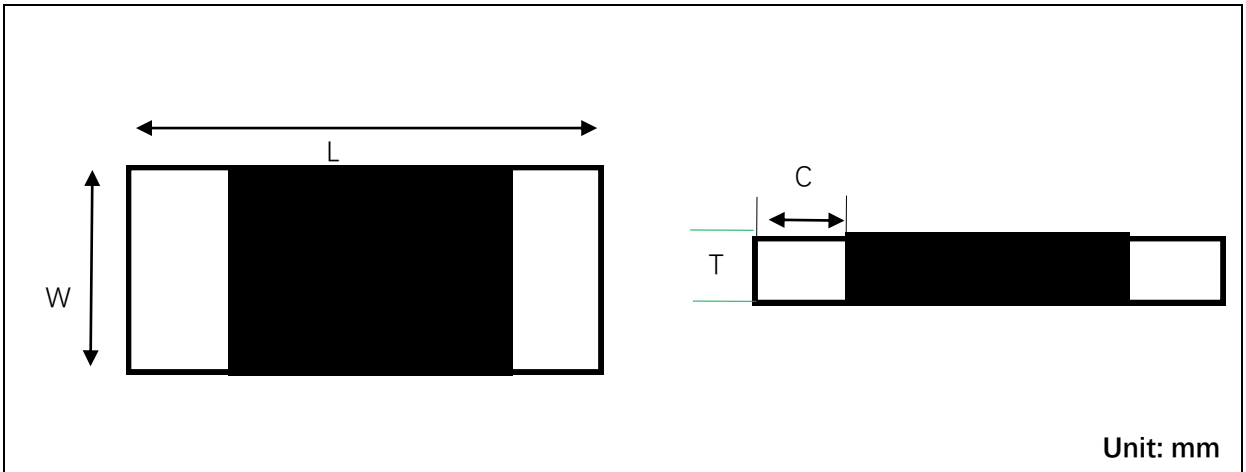
■ Product structure and size (Unit:mm)



Unit: mm

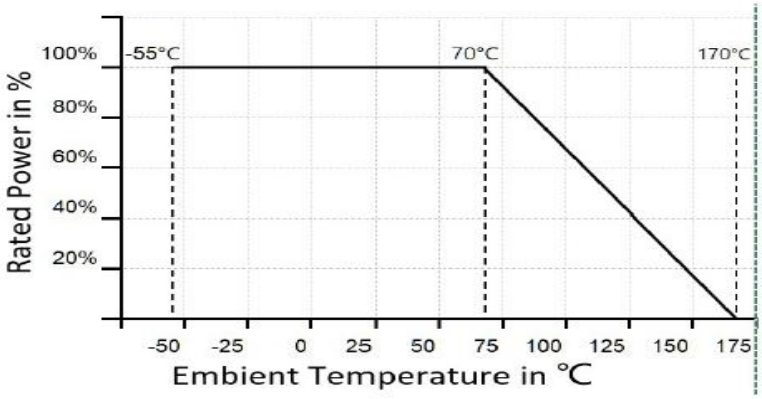
Encapsulation	Resistance	L	W	C	T
1206	1mR~100mR	3.2±0.2	1.6±0.2	0.5±0.2	0.6±0.2

■ Electrical parameter

Type	Maximum rated power (A)	Maximum rated current (A)	Maximum overload current (A)	TCR (ppm/°c)	Operating Temperature Range (0°C)	Resistance Range
						±1%(F), ±2%(G), ±5%(J)
HoLLR1206	1/2W-1W	31.6	70.7	1mR~35mR=±40; 36mR~100mR=±90	-55~+170	1mΩ-100mΩ

■ Power curve

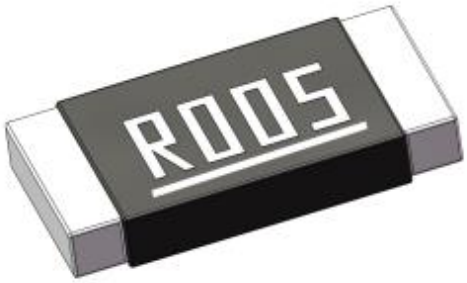
When the resistor is operated at temperatures above 70°C, the rated power must be derated according to the following diagram:



■ **The rated current is calculated by the following Formu**

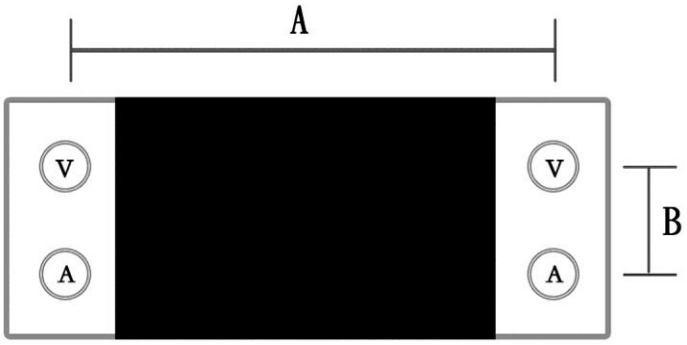
I =SQRT (P/R)
I=Rated current (A)； P=Rated power (W);R=Resistance Value (Ω)

■ Word said



R005 = 5mΩ

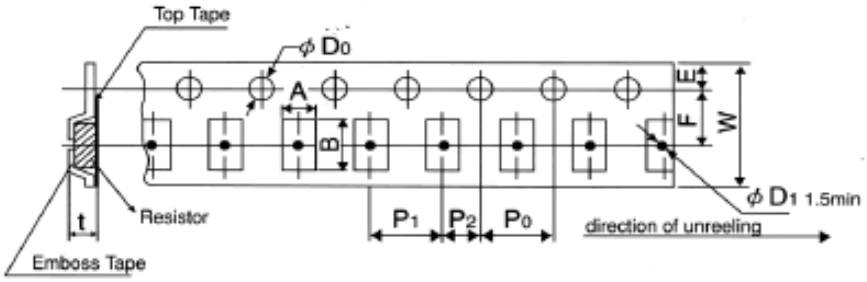
■ **：Resistance measurement point:**



Unit :mm

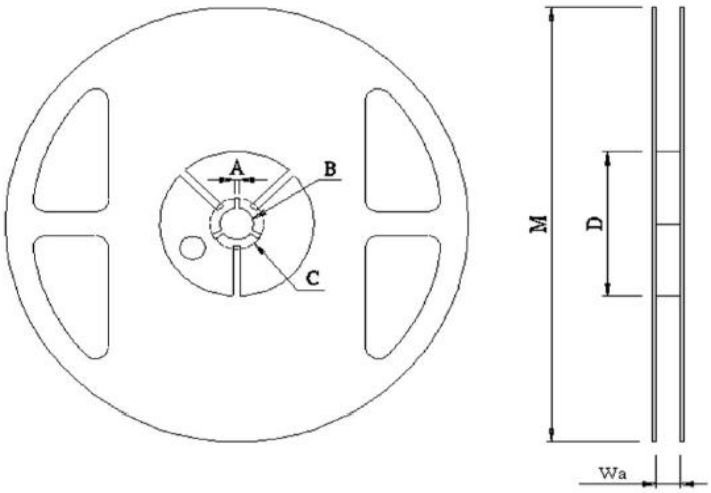
Type	A	B
HoLLR1206	2.95±0.25	0.45±0.15

■ Ribbon size(Unit:mm)



A	B	W	F	E	P1	P2	P0	D0	T
2.0±0.2	3.6±0.2	8±0.2	3.5±0.05	1.75±0.1	4.0±0.1	2±0.05	4±0.05	Φ 1.5+0.1	1.2±0.15

■ Reel Specification



Unit: mm

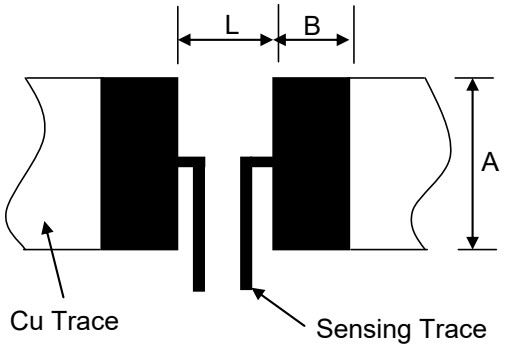
Φ M	Φ B	Φ C	W	A	Packaging Quantity
178±2.0	13.5±1	21±1	9±0.5	2±0.5	5000PCS

■ Reliability Tests

Item	Conditions of Test	Test Limits
Short Time Overload	**Apply an overload for 5 seconds, and then measure the rate of change of resistance after 24 hours. (The overload conditions are shown in the table below.)** model number / rating / Rated Power Multiplier HoLLR1206 / 1W / X2 Refer to JIS-C5201	≦±0.5%
Temperature Coefficient of Resistance	**TCR (ppm/°C) = (R2-R1/R1*(T2-T1))X 10^6** **R1:Measured at room temperature (Ω)** **R2: Measured resistance at 125℃ (Ω)** **T1:Room temperature (℃)** **T2: 125 °C** Refer to JIS C 5201	**Refer to 6.**
Biased Humidity	Apply rated current at 85°C±5°C 85 ±5%RH in a const ant humidity thermostat for 90 minutes ON and 30 min utes OFF, and measure the rate of change of resistan ce after 1,000 hours of standing for 1 hour or more. Refer to JIS C 5201	≦±0.5%
Temperature Cycling	Heat and cold circulator, -55℃~+125℃, take it out after 1000 cycles and leave it for 1 hour. Measure the resistance change rate above. **test condition** minimum temperature: **-55°C +0/-10C°** highest temperature: **125°C +10/-0C°** Temperature retention time: **30 minutes.** Refer to AEC-Q200	≦±0.5%
Low Temperature Exposure (Storage)	-55±2°C for 1000 hours in a thermostat, remov e and let stand for 1 hour or more, then measu re the rate of change of resistance value. Refer to JIS C 5201	≦±0.5%

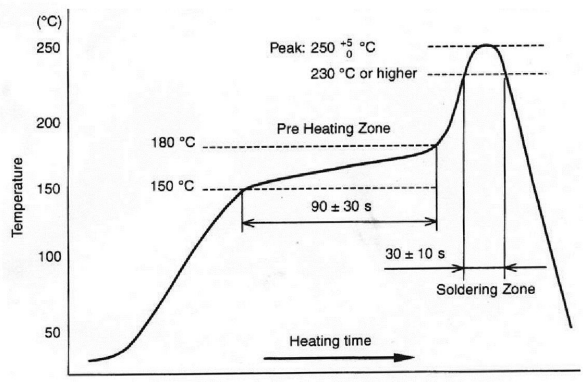
High Temperature Exposure (Storage)	**Oven at 170℃ for 1000 hours, remove and let stand for 1 hour or more, then measure the rate of change of resistance.** Refer to JIS C 5201	**≦±1.0%**
Load Life	**Apply the rated current in the oven at 70±2℃ for 90 minutes ON, 30 minutes OFF, and measure the rate of change of resistance at 1,000 hours or more after removing the product and letting it stand for more than 1 hour.** Refer to JIS-C5201	**≦±1.0%**
Resistance to Solder Heat	Immerse in a tin furnace at 260±5°C for 10±1 seconds, remove and let stand for 1 hour or more, then measure the rate of change of resistance. Refer to JIS-C5201	**≦±0.5%**
Solderability	Immersed in a furnace at 245±5°C for 3±1 seconds, then removed and placed under a magnifying glass to observe the area of the solder. Referto JIS-C5201	The area of the electrode covered with new tin needs to be more than 95 %.
Resistance to solvent	**After immersing in isopropyl alcohol solvent at 20~25° C for 60±5 seconds, remove and let stand for more than 24 hours, then measure the rate of change of resistance value.** Refer to JIS-C5201	**≦±0.5%** **No damage to appearance**
Insulation Resistance	Place on the jig, apply 100VDC to the positive and negative terminals for one minute, and measure the insulation resistance between the electrode and the protective layer and the electrode and the substrate (base material). Refer to JIS-C5201	**>100MΩ**
Joint Strength of Solder	Soldered in the bending test board, placed in the bending test machine, the test board in the centre of the force downward pressure, under the load of measuring resistance rate of change. Refer to JIS-C5201	**≦±0.5%** **No damage to appearance**

■ **Recommended Solder Pad Dimension** (Unit:mm)

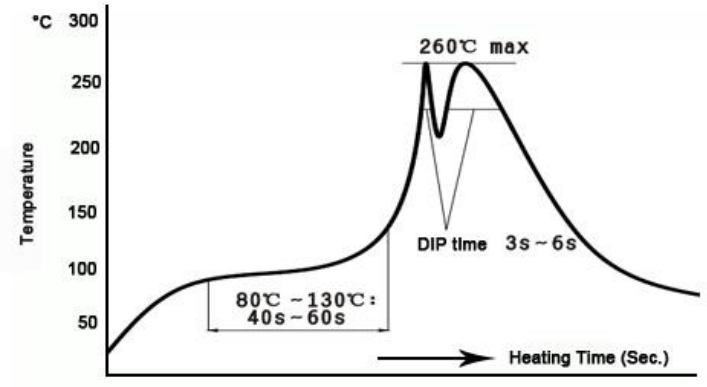


seal inside	Resistance	A	L	B
1206	1mR~100mR	1.8±0.1	2.3±0.1	1.0±0.1

■ Recommended welding parameters **96.5Sn/3.0Ag/0.5Cu**
Reflow soldering IR Reflow-Soldering Profile



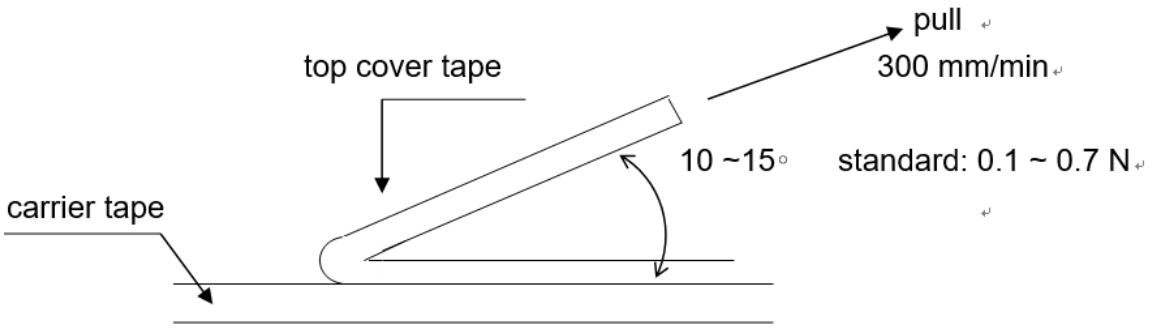
Reflow Profile



Wave soldering profile

■ **Peel strength of the upper band**

Peeling speed: 300 mm/min; peeling force between 0.1N and 0.7N.



Revision of curriculum vitae:

No	Contents of modification	Date of revision	Reason for change	Releases	Change agent
1	Change product temperature drift	2023-09-08	Product Upgrade Temperature Drift	A0 to A1	yongkanghuang