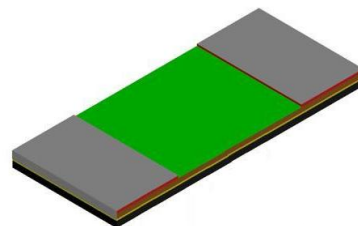


HoJLR0603-Metal Foil Resistor Series Datasheet

■ Features

- ① Low TCR
- ② Low inductance
- ③ Low thermal EMF
- ④ Metal Alloy Normal Terminal Low-Resistance Resistor



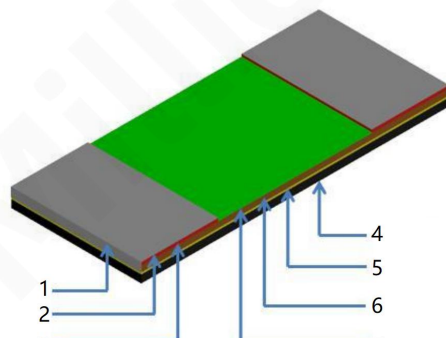
■ Applications

- ① Notebook
- ② Battery pack
- ③ Inverter/Converter
- ④ Consumer electronics

■ Standard Electrical Specifications

Size	Power Rating	Resistance Range	TCR (ppm/°C)	Operation Temperature Range	Resistance Tolerance (%)	Rating Current
0603	1/2W	2mR ~ 3mR	±150 ppm/°C	-55°C~+150°C	±0.5%	$(P \cdot R)^{1/2}$
		4mR ~ 5mR	±100 ppm/°C		±1%	
		6mR ~ 20mR	±75 ppm/°C		±5%	

■ Construction

		No.	Component Name
		1	External Electrode (Sn Plated)
		2	Secondary Electrode (Ni Plated)
		3	internal Electrode (Cu Plated)
		4	Bearing layer
		5	Epoxy
		6	Metal Alloy
		7	protective layer



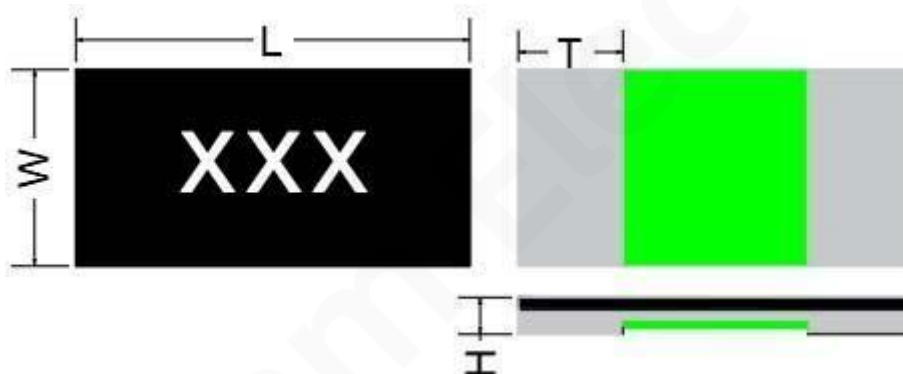
■ Part number

Explanation of Part Numbers: HoJLR0603-1/2W-10mR-1%

Ho	JLR	0603	1/2W	10mR	1%
↓	↓	↓	↓	↓	↓
Manufacturer	Product Category	Package	Rated Power	Resistance Value	Tolerance
Ho	JLR	0603	1/2W	2mR ~ 20mR	±0.5% ±1.0% ±5.0%

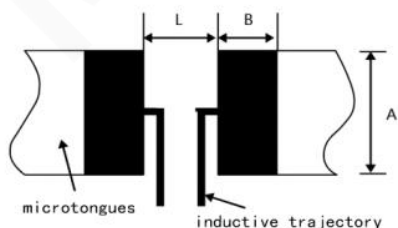
For detailed specifications, please refer to the next page.

■ Outline Dimensions (mm)



Size	R Value	L	W	H	T
0603	2mR	1.6±0.20	0.80±0.20	Max 0.40	0.50±0.15
	3mR~4mR	1.6±0.20	0.80±0.20	Max 0.40	0.35±0.15
	5mR~20mR	1.6±0.20	0.80±0.20	Max 0.35	0.35±0.15

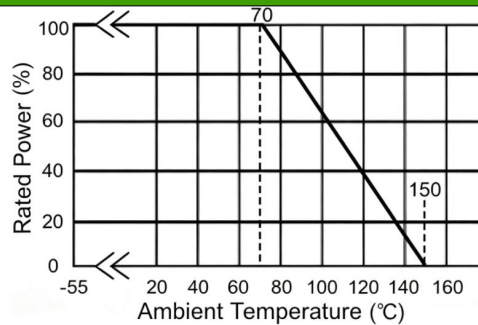
■ Recommended Pad Dimensions



Resistance	L	B	A
2mR	0.5	1.35	0.92
3mR~20mR	0.6	1.30	0.92

■ Power Derating Curve

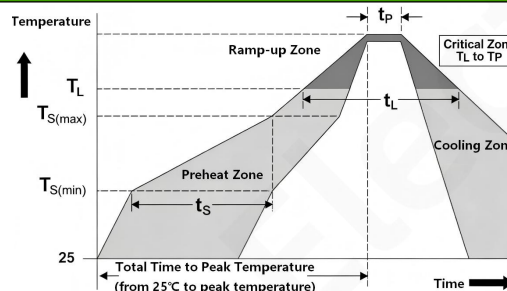
When the resistor is operated at ambient temperatures higher than 70°C, its rated load (rated power) must be derated in accordance with the curve shown above.



■ Recommended Soldering Parameters

(Recommended Solder Paste::96.5Sn/3.0Ag/0.5Cu)

Infrared Reflow Soldering Profile



Reflow Soldering Conditions		Lead- Free Assembly Parameters
Preheat Section	Min. Temperature $T_{S(min)}$	150°C
	Max. Temperature $T_{S(max)}$	200°C
	Time (Min. to Max.) (秒)	60-120 s
Average Ramp- up Rate(From $T_{S(max)}$ to liquidus temperature T_L)		Max: 5°C/S
		Max: 5°C/s
Reflow Soldering	Liquidus Temperature (T_L)	217°C
	Dwell Time (t_L)	20 - 40s
Peak Temperature (T_p)Time within $\pm 5^\circ\text{C}$ of actual peak temperature		260°C
		10 - 30s
Cooling Ramp- down Rate		Max: 5°C/s
Total time from 25°C up to peak temperature T_p		Max 8 min
Wave Soldering		Not applicable
Hand Soldering		350°C, max5s

Recommended Infrared Reflow Profile Compliant with J- STD- 020D Standard

■ Soldering Iron

Temperature: 350°C $\pm$ 10°C, Dwell time shall not exceed 3 seconds.

■ Reliability Test

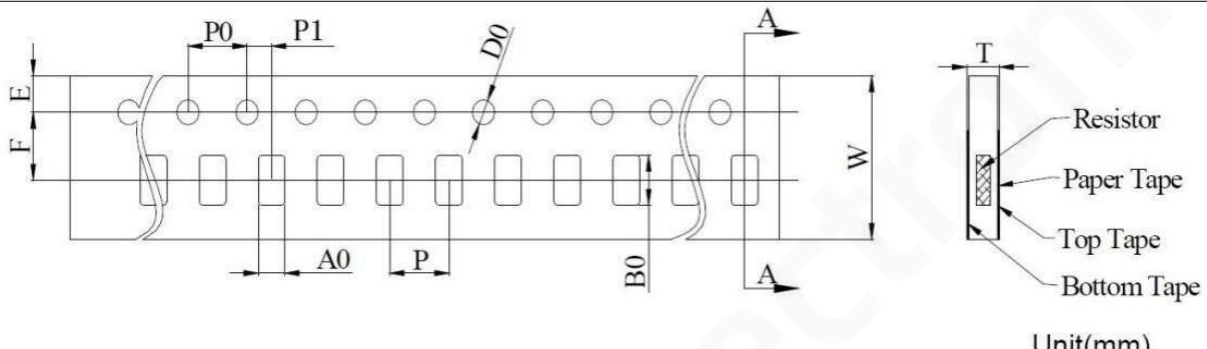
Item	Test Condition / Method			Limit	Standard Reference
Temperature Coefficient of Resistance (TCR)	Formula: $TCR(R-R_0)/R_0(T_2-T_1) \times 10^6$ R0: Resistance at room temperature: R: Resistance @125°C T1: Ambient room temperature: T2: 125°C			Refer to specification	MIL-STD-202 Method 304
Short- Time Overload	Measure the resistance change rate after applying overload for 5 seconds. (Test conditions: Conduct 3 repeated tests for the 0603 package.)			$\leq \pm 1.0\%$	IEC60115-1 4.13
	Package	Resistance	Rating		
	0603	2mR-10mR	4cycles		
Resistance to Soldering Heat	260°C $\pm$ 5°C, 12 s $\pm$ 0.5 s			$\leq \pm 0.5\%$	MIL-STD-202 Method 210
Solderability	Solder bath: 245 $\pm$ 5°C, immersion 3 $\pm$ 0.5 s			Solder coverage $\geq$ 95%	IEC60115-1 4.17
Temperature Cycling	-55°C(15 min)/+150°C(15 min), 300 cycles			$\leq \pm 1.0\%$	MIL-STD-202 Method 107G
Low- Temperature Storage	-55°C, 1000 hours, power-off			$\leq \pm 1.0\%$	IEC60115-1 4.23.4
High- Temperature Storage	150°C, 1000 hours, power-off			$\leq \pm 1.0\%$	IEC60115-1 4.25
Biased Humidity	+85°C, 85%RH, 10% bias, 1000 hours			1~10mR, $\Delta R \leq \pm 1\%$ 11~20mR, $\Delta R \leq \pm 2\%$	MIL-STD-202 Method 103
Vibration Test	5g vibration for 20 min; 12 cycles on each of 3 orthogonal axes. Frequency: 10 Hz-2000 Hz, tolerance $\leq \pm 0.5\%$, per MIL-STD-202.			$\leq \pm 0.5\%$	MIL-STD-202 Method 204
Operating Endurance	70°C $\pm$ 2°C, 1000 hours at rated power; 1.5h ON / 0.5h OFF cycle			$\Delta R \leq \pm 1\%$	MIL-STD-202 Method 108
Humidity Resistance	MIL-STD-202 Method 106, no power applied, procedure 7b optional			$\leq \pm 0.5\%$	MIL-STD-202 Method 106

Note: All reliability- test samples shall be measured 24 $\pm$ 4 hours after completion of testing.

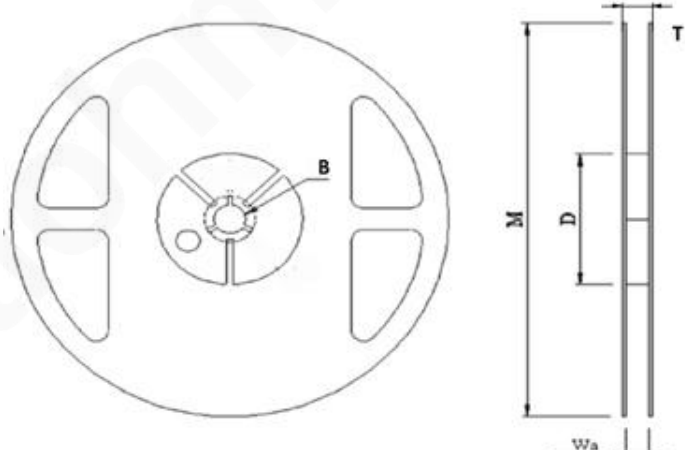
■ Rated Current Calculation Formula

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

■ Carrier Tape Dimensions

 Unit(mm)									
A0	B0	E	F	W	P0	P	P1	D0	T
1.0±0.2	1.8±0.2	1.75±0.2	3.5±0.05	8±0.2	4±0.1	4±0.1	2±0.05	Φ1.55±0.1	0.6±0.4

■ Reel Specifications

						
M	W	A	B	C	D	Tape-and-Reel Packing
178±2	8.4±0.5	2±0.5	13.2±0.5	17.7±0.5	60±1	5000PCS/ reel

■ Product Usage Recommendations

- ◆ Protect component surfaces during handling; avoid dents, scratches and other surface damage.
- ◆ Avoid applying mechanical stress to the product during mounting and application.
- ◆ Long- term operating power shall not exceed rated power; prevent resistance drift caused by continuous overload.
- ◆ For high- temperature or poor- heat- dissipation operating conditions, apply power derating according to the derating curve.

■ Storage Instructions

- ◆ Storage ambient temperature: 5~35°C; Humidity < 65%RH, keep humidity as low as feasible.
- ◆ Store in clean, dry environment free of corrosive/harmful gases.
- ◆ Keep components sealed inside carrier tape before use; do not remove unnecessarily.
- ◆ Under above storage conditions, shelf- life is 1 year.
- ◆ For parts stored longer than 1 year: inspect for surface oxidation and perform solderability test prior to usage.

■ Revision History:

Revision No.	Revision Date	Revision Description	Reason for Change	Revisor
Ho-A0	2026-07-01	Initial Release	/	/
Ho-A1	2026-07-13	Update part- numbering rule	Huang Yongkang	Leng Wenyi

■ Disclaimer

- ◆ All products, specifications and data are subject to change without prior notice.
- ◆ Shenzhen Milliohm Electronics Co., Ltd., its affiliates, agents and representatives shall not be held legally liable for errors, inaccuracies or omissions in product- related information contained herein or otherwise disclosed.
- ◆ Except as explicitly stated within purchase terms and conditions, Milliohm Electronics makes no representations or warranties of any kind.
- ◆ This datasheet shall not expand or modify Milliohm Electronics' purchase terms and conditions, including without limitation any warranties set forth therein.
 - (1) To the maximum extent permitted by applicable law, Milliohm Electronics disclaims liability as follows :
 - (2) Any and all liabilities arising out of product application or usage.
 - (3) All implied warranties including merchantability, fitness for a particular purpose and non- infringement.
 - (4) All liabilities for special, indirect or consequential damages of whatever nature.
- ◆ Performance data shown in this datasheet may vary across different applications; component performance may degrade over service time. Recommended applications reflect Milliohm Electronics' typical application knowledge and experience. Customers bear full responsibility to verify product suitability for their specific use case against datasheet parameters. Always obtain the latest revision of this datasheet via official website: <http://www.milliohm.net> before installation or use.
- ◆ Publication of this datasheet confers no license (express, implied or otherwise) under any intellectual- property rights belonging to Milliohm Electronics.
- ◆ Unless explicitly stipulated in writing, these products are NOT designed for life- sustaining or life- support equipment. Customer shall bear all risks for unauthorized deployment in such applications, and shall fully indemnify Milliohm Electronics for any losses incurred by such sales or usage. Contact authorized Milliohm Electronics representatives for written terms for these special- purpose applications.