



RLM Series 0mΩ (JUMPER) (Halogen-Free)

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1. Scope :

This specification applied to the products of Lead-Free jumper resistor of metal plate for Lead-Free RLM series manufactured by TA-I TECHNOLOGY CO.,LTD.

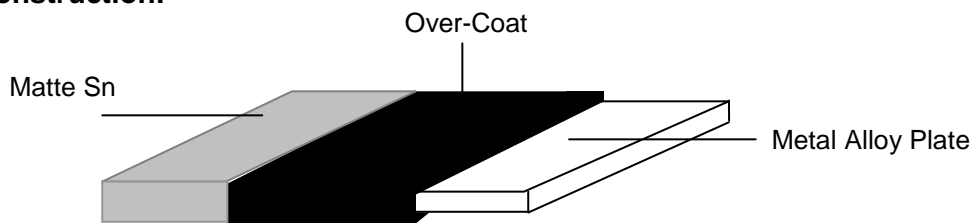
2. Type Designation :

<u>RLM</u> Item	<u>12</u> Series No.	<u>J</u> Resistance tolerance	<u>I</u> Packaging	<u>C</u> Power	<u>R000</u> Resistance
	12:1206(3216)	J:±5%	T: Paper	C:1.0W	e.g : R000 ≤ 0.2mΩ

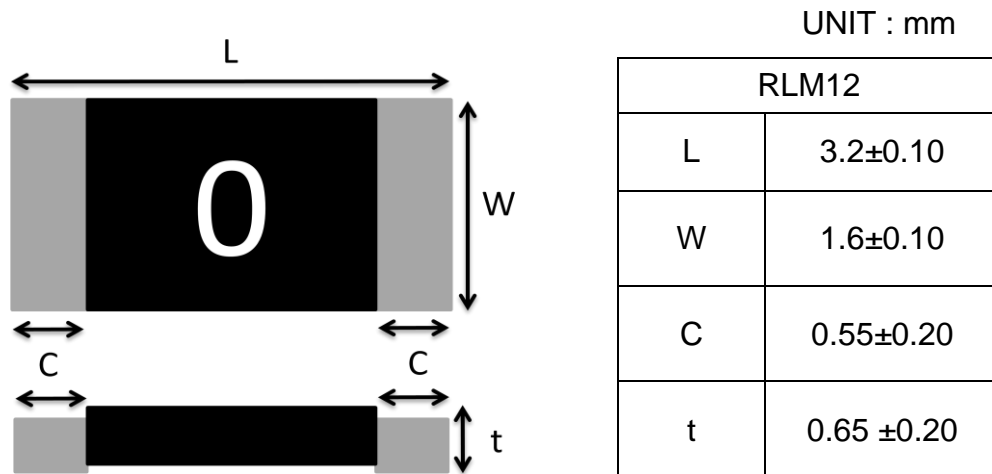
*Resistance is under 0.2 mΩ for jumper resistor

3. Construction and Dimension :

3.1 Construction:



3.2 Dimension:



Series	Size	Resistance Value (Max.)	Power (W)	Operation Temperature Range	Max Rated Current	TCR
RLM12	1206	≤ 0.2 mΩ	1.0	-55°C ~ +150°C	70 (A)	3800



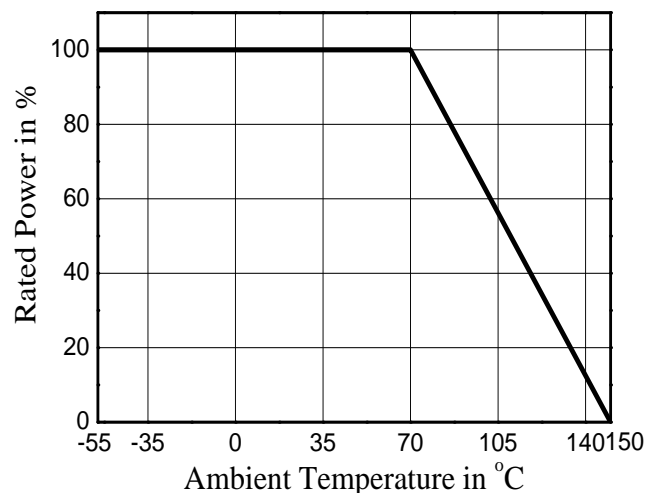
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4. Reliability Tests:

Test Items	Reference standard	Condition of Test	Test Limits
Load Life	IEC60115-1 4.25.1 JIS C 5201-1 4.25.1	1000hours at rated power, 70°C, 1.5hours "ON", 0.5hour "OFF"	< 0.2 mΩ
Short Time Overload	IEC60115-1 4.13 JIS C 5201-1 4.13	4 X rated power for 5s	< 0.2 mΩ
Moisture no Load	IEC60115-1 4.24.2.1a) JIS C 5201-1 4.24.2.1a)	85°C, 85%RH, 1000hrs	< 0.2 mΩ
Temperature cycle	IEC60115-1 4.19 JIS C 5201-1 4.19	-55°C & +155°C, 300cycle, 15min per extreme condition	< 0.2 mΩ
Resistance to Soldering Heat	IEC60115-1 4.18 JIS C 5201-1 4.18	260±5°C for 10±1 sec	< 0.2 mΩ
Solderability	IEC60115-1 4.17 JIS C 5201-1 4.17	245±5°C, 2±0.5sec	At least 95% of surface area of electrode shall be covered with new solder
High Temperature Exposure	IEC60115-1 4.23.2 JIS C 5201-1 4.23.2	150°C, 1000hrs	< 0.2 mΩ
Low Temperature Storage	IEC60115-1 4.23.4 JIS C 5201-1 4.23.4	-55°C, 1000hrs	< 0.2 mΩ
Substrate Bending	IEC60115-1 4.33 JIS C 5201-1 4.33	Bending width 2mm	< 0.2 mΩ
Insulation Resistance	IEC60115-1 4.6 JIS C 5201-1 4.6	100V DC for 1 minute	>100 MΩ

5. Derating Curve





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5.1 Rated Current

The rated current is calculated by the following formula:

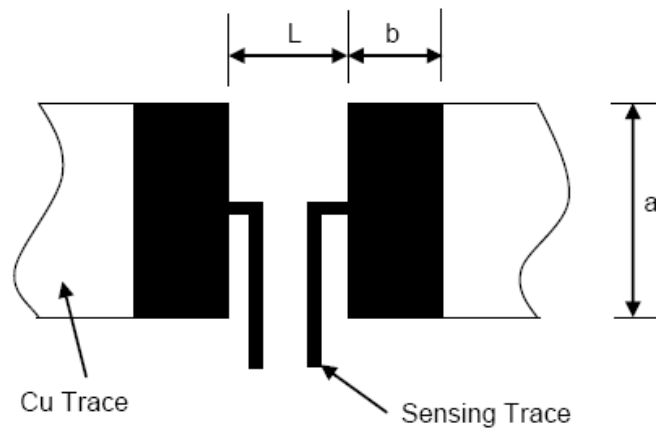
$$I = \sqrt{P \div R}$$

I:Rated Current(A)

P:Rated Power(W)

R:Resistance Value(Ω)

6. Recommended Solder Pad Dimension



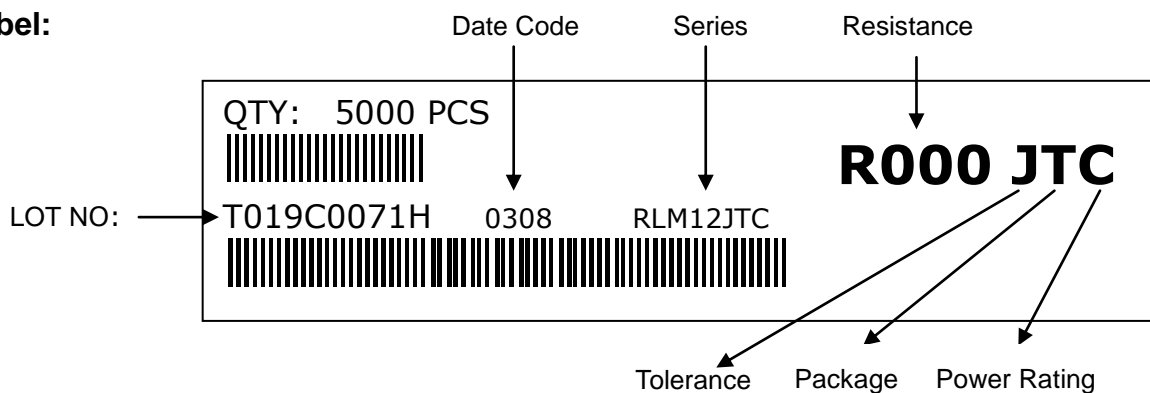
Unit: mm

Resistance Range (Ω)	a	b	L
0.0002	1.8	1.7	1.6

7. Number of Package:

5000 Pieces / package

8. Label:

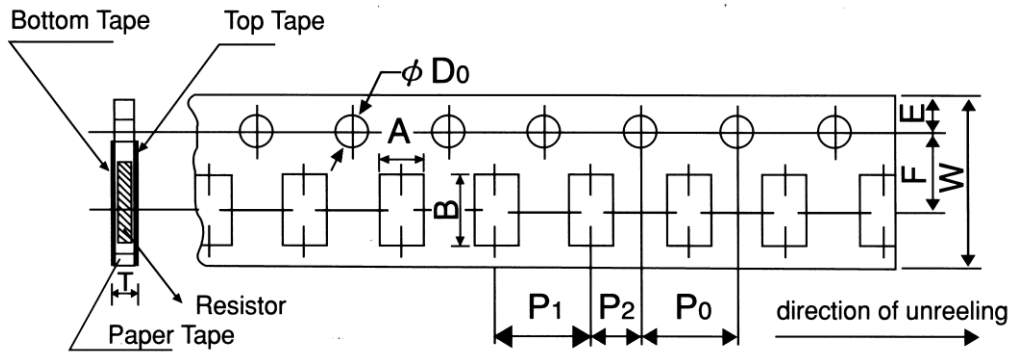




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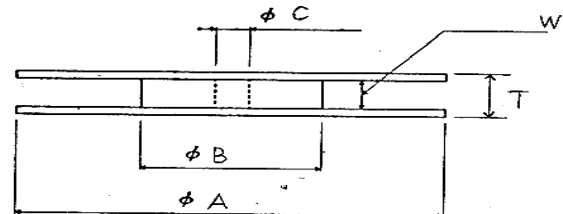
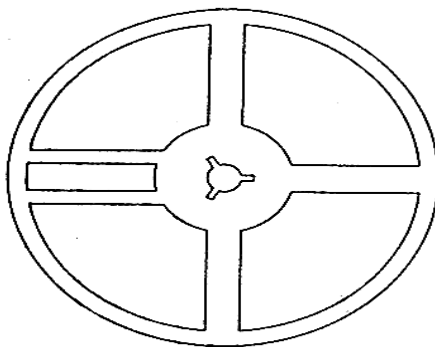
9. Taping



Packing	Type	A	B	W	F	E	P ₁	P ₂	P ₀	D ₀	T
Paper Tape	RLM12	2.0±0.15	3.6±0.2	8.0±0.2	3.5±0.05	1.75±0.1	4.0±0.1	2.0±0.05	4.0±0.1	φ 1.5 (+0.1/-0)	0.84±0.1

Unit:mm

10. Reel Specification



Series	φ A	φ B	φ C	W	T
RLM 12	178.0 ±2.0	60.0 ±1.0	13.0 ±1.0	9.0 ±1.0	11.4 ±1.0

Unit: mm

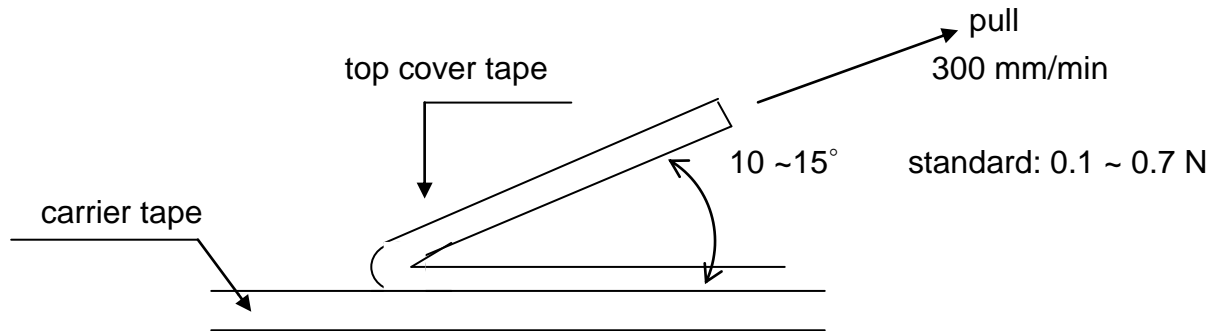


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11. Peeling Strength of Top Cover Tape

Peel – off force of paper and blister tape is in accordance with “JIS ” that is , 0.1 to 0.7 N at a peel-off speed of 300 mm / minute.



12. Storage Conditions:

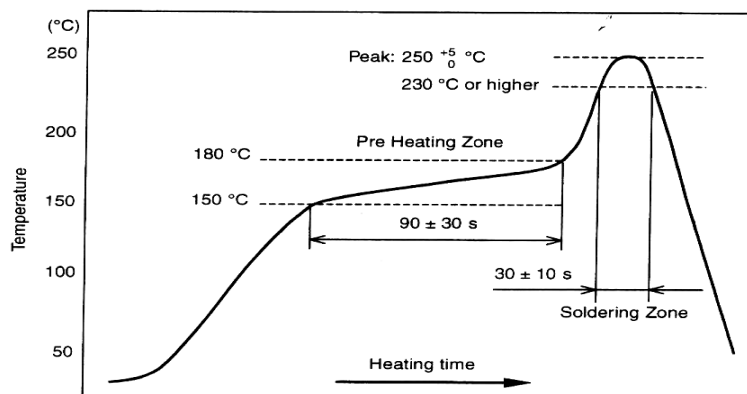
Temperature: 5°C ~ 35°C, Humidity: 40% ~ 75%

Humidity storage level: Level 1

13. Shelf Life:

2 years from manufacturing date.

14. Recommend IR – Reflow profile : (solder : Sn96.5 / Ag3 / Cu0.5)



Peak : 260 ± 5 °C , 10 \pm 1 sec
-5

Pre – heat Zone : 150 to 180 °C , 90 \pm 30 sec

Soldering Zone : 230°C or higher , 30 \pm 10 sec

Iron Solder: 350 \pm 10°C , 3+1/-0 sec



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15. ECN

Engineering Change Notice: The customer will be informed with ECN if there is significant modification on the characteristics and materials described in Approval Sheet.