METAL FOIL 0mR JUMPER RESISTOR

(RMJ SERIES)

Features

- ∗Low Resistance/Inductance
- ∗ Excellent long term stability
- ∗ RoHS compliant and halogen free
- ∗ Lead free.
- ∗ High current jumper application

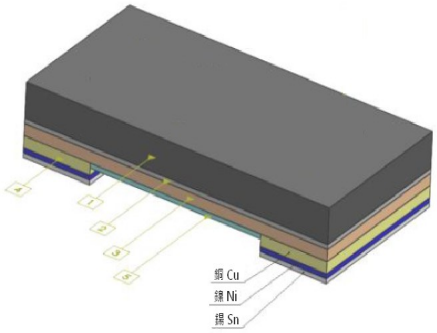
Applications

- ∗Entertainment
- ∗Power supply
- ∗Measuring instrument
- ∗Industrial
- ∗Battery management system

Construction

1. Substrate : Alumina Ceramic
2. Adhesive : Epoxy
3. Resistive element : Cu - Alloy
4. Terminal electrode : Sn, Ni, Cu
5. Protective coating : flame - retardant epoxy, meets UL-94-V0 requiremen
   (0603~2010: green, 0201~0402: black)

∗Marking coating : Flame - retardant eposy, meets UL-94-V0 requirements
(0603~2010: black, 0201~ 0402: marking)



Standard Electrical Specifications

Unit: mm

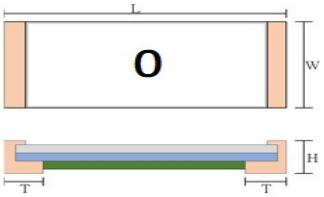
Style	Rating Power at 70℃	T.C.R (ppm/℃)	Max. Rating Current	Max. Overload Current	Resistance Range (mΩ) 5.0% (J)		Material	Operating Temp. Range(℃)
RMJ-02 0201	0.1W	±4200	5.8A	14.5A	0mR	3.0mR Max.	Cu Alloy	-55℃~155℃
RMJ-04 0402	0.125W	±4200	6.5A	16.25A	0mR	3.0mR Max.		
RMJ-06 0603	0.25W	±4200	22.4A	56A	0mR	0.5mR Max.		
RMJ-10 0805	0.5W	±4200	31.6A	79A	0mR	0.5mR Max.		
RMJ-18 1206	0.75W	±4200	38.7A	96.7A	0mR	0.5mR Max.		
RMJ-22 2010	1W	±4200	70.7A	112A	0mR	0.2mR Max.		

Dimensions

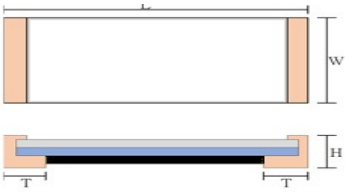
Unit: mm

Style	Power	Resistance Range	L	W	H	T
RMJ-02 0201	0.1W	0mR (3.0mR Max.)	0.60±0.03	0.30±0.03	0.26±0.05	0.15±0.05
RMJ-04 0402	0.125W	0mR (3.0mR Max.)	1.00±0.10	0.50±0.05	0.40±0.05	0.30±0.10
RMJ-06 0603	0.25W	0mR (0.5mR Max.)	1.55±0.10	0.80±0.10	0.55±0.10	0.35±0.20
RMJ-10 0805	0.5W	0mR (0.5mR Max.)	2.10±0.15	1.35±0.15	0.70±0.10	0.55±0.20
RMJ-18 1206	0.75W	0mR (0.5mR Max.)	3.10±0.20	1.55±0.10	0.70±0.10	0.80±0.20
RMJ-22 2010	1W	0mR (0.2mR Max.)	5.08±0.25	2.54±0.25	0.65±0.20	2.10±0.30

RMJ-06 0603 ~ RMJ-22 2010



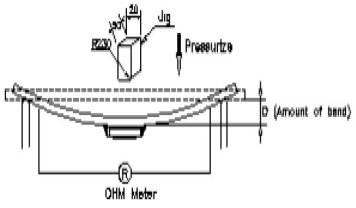
RMJ-02 0201 ~ RMJ-04 0402



RoHS compliant

CINETECH SYMBOL OF QUALITY

Reliability Test and Requirement

Test Item	Test Method	Procedure	Requirements
Short Time Overload	JIS C 5201-1 Clause 4.13	The number of rated power are as follows: 2.5 times of rated current -->0201/0402/0603/0805/1206 size 2.5 times of rated power -->2010 size Rating power duration: 5secs	≦Rmax
High Temperature Exposure	JIS C 5201-1 clause 4.23.2	1000 hrs at + 155℃±2℃	≦Rmax
Low Temp. Storage	JIS C 5201-1 Clause 4.23.4	1000 hrs at -55℃±2℃	≦Rmax
Soldering Heat	JIS C 5201-1 clause 4.18	260±5℃ for 10±1 seconds.	≦Rmax
Moisture Load Life	JIS C 5201-1 clause 4.24	T=40±2℃,RH=90~95%, Load with Rated Current 1.5hrs "ON",0.5hrs "OFF", 1000h	≦Rmax
Temperature Cycling	JIS C 5201-1 clause 4.19	-55℃ to +155℃, 100cycles	≦Rmax
Load Life	JIS C 5201-1 clause 4.25	T=70±2℃, Load with Rated Current 1.5hrs "ON", 0.5hrs "OFF",1000h	≦Rmax
Solderability	JIS C 5201-1 clause 4.17	245±5℃ for 3±0.5 secs.	The covered area＞95%
Mechanical Shock	JIS C 5202 clause 6.7	a= 100G, t=11 ms, 5 times shock	≦Rmax
Substrate Bending	JIS C 5201-1 clause 4.33	Span between fulcrums :90 mm Bend Width : 2 mm 	≦Rmax

∗ Marking Format:

◎ All type products marking are 1 digits

e.g. 1 digits

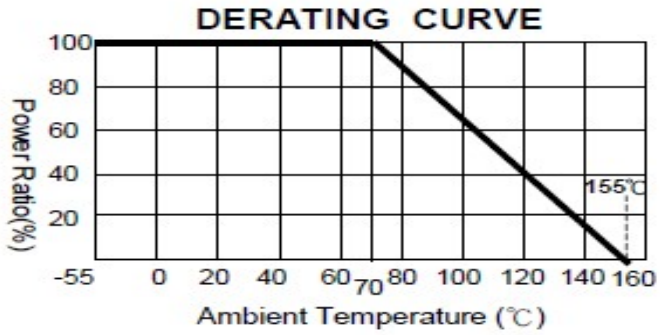
0mΩ the product marking is 0.

◎ The criteria to distinguishing the mark on the surface of products are that characters can be identified.

Performance Characteristics

★ Power Derating Curve

The Operating Temperature Range: -55℃~+155℃
For Resistors operated in ambient temperatures above 70℃,
power rating must be derated in accordance with the curve below:



★ Rating Current

The following equation may be used to determine the DC (Direct current) or
AC (Alternating Current) (RMS, root mean square value) of normal rated power.
However, if the result value exceeds the highest current of regulated standards (paragraph 5),
the highest normal rated power is to be used.

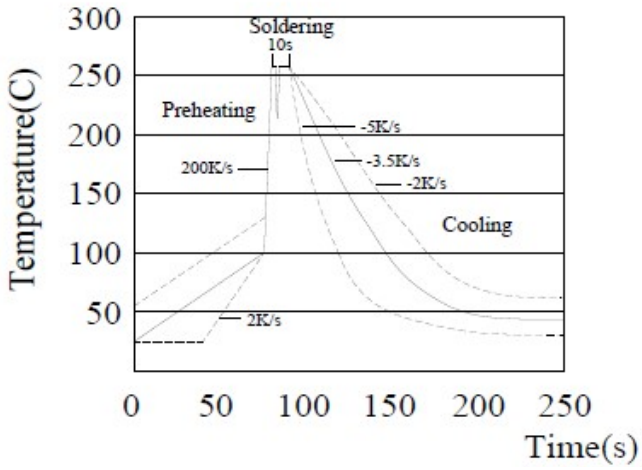
$$I = \sqrt{P/R}$$

I = Rating current (A)
P= Rating Power (W)
R= Resistance(Ω)

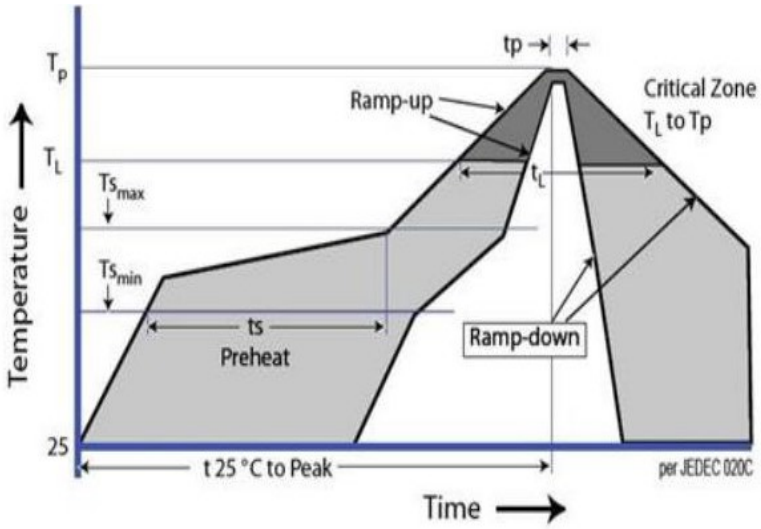
Recommended Customer Soldering Parameters

★ Wave Solder Temperature Condition

Preheating: 100 ±130℃, max. 100 sec.
Soldering: 250℃ ~ 265℃, max. 10 sec.
Maximum temperature: 260±5℃, max. 10 sec.



★ **Solder reflow Temperature condition**



★ **Rework temperature (hot air equipment) : 350℃, max. 3~5 sec.**

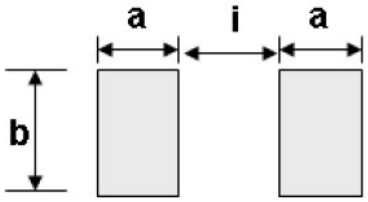
★ **Recommended reflow methods**

IR, vapor phase oven hot air oven

If reflow temperatures exceed the recommended profile,

devices may not meet the performance requirements.

★ **Recommend Land Pattern Design**



Unit: mm

Style	Power Rating	Resistance Range	a	b	i
RMJ-02 0201	0.1W	0mR (3.0mR Max.)	0.30	0.35	2.50
RMJ-04 0402	0.125W	0mR (3.0mR Max.)	0.50	0.60	0.40
RMJ-06 0603	0.25W	0mR (3.0mR Max.)	1.30	0.92	0.60
RMJ-10 0805	0.5W	0mR (3.0mR Max.)	1.40	1.44	0.80
RMJ-18 1206	0.75W	0mR (3.0mR Max.)	1.80	1.84	1.20
RMJ-22 2010	1W	0mR (3.0mR Max.)	3.65	2.88	0.70

Parts Number System