

1/2W, 0612, LF Type Low Resistance Chip Resistor (Lead / Halogen Free)

1. Scope

This specification applies to 1.6mm x 3.2mm size 1/2W.

2. Type Designation

RLM-1632W - 4F - □□□□ - □ NH
 (1) (2) (3) (4) (5)

Where

(1) Series No.

(2) 4F = 1/2W

(3) Resistance value :

For example –

1R5m = 1.5mΩ

R005 = 5mΩ

(4) Resistance value :

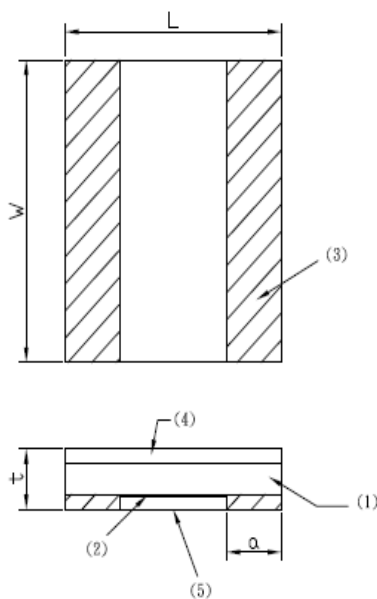
F = ± 1%

G = ± 2%

J = ± 5%

(5) NH = Sn plating (Lead free / Halogen free)

3. Outline Designation



- (1) Substrate
- (2) Resistor Cu-alloy
- (3) Terminals Sn (on Cu)
- (4) Marking Heat resistive epoxy resin
- (5) Protection coat Heat resistive epoxy resin

Code Letter	Dimensions (mm)	
L	1.6 ± 0.20	
W	3.2 ± 0.25	
a	0.35 ± 0.20	
t	2 ~10 mΩ	0.5 ± 0.20
	1 mΩ, 1.5 mΩ	0.7 ± 0.20

Figure 1. Construction and Dimensions

4. Ratings

4-1 Specification

Power Ratings *	1/2 W		
Resistance Value	1 mΩ, 1.5 mΩ	2 mΩ, 2.5 mΩ	3 mΩ ~ 10 mΩ
Temperature Coefficient of Resistance (Reflow)	±200ppm/°C	±150ppm/°C	±100ppm/°C
Resistance Tolerance	±1%, ±2%, ±5%		

Note * :

Power ratings is based on continuous full load operation at rated ambient temperature of 70°C. For resistors operated at ambient temperature in excess of 70°C, the maximum load shall be derated in accordance with the following curve.

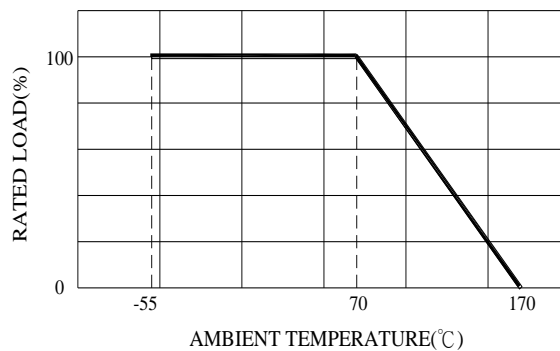


Figure 2. : Power Temperature Derating Curve

4-2 Rated Voltage

The rated voltage shall be determined by the following expression.

$$V = \sqrt{P \times R}$$

Where V : Rated voltage (V)

R : Nominal resistance value (Ω)

P : Rated dissipation (W)

4-3 Operating and Storage Temperature Range

-55 to +170°C

5. Life test

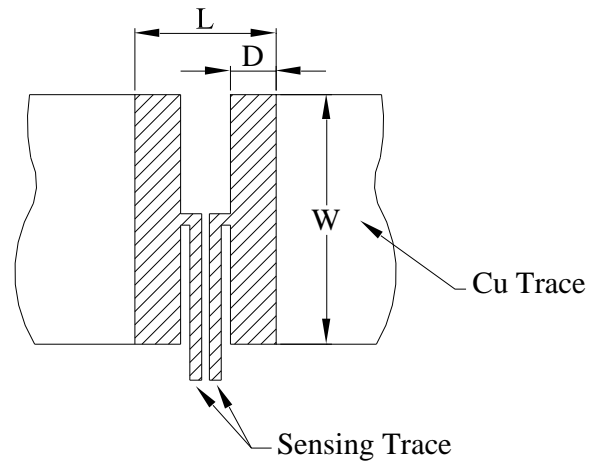
Test Item	Condition of Test	Requirements
Short Time Overload	2.5 * rated power for 5 seconds Refer to JIS C 5201-1 4.13	$\Delta R : \pm 1.0\%$
Thermal Shock	-55 ~125°C 100 cycles, 15 min at each extreme condition Refer to JIS C 5201-1 4.19	$\Delta R : \pm 1.0\%$
Low Temperature Storage	Kept at -55°C, 1,000 hours Refer to JIS C 5201-1 4.23.4	$\Delta R : \pm 2.0\%$
Load Life	Rated voltage for 1.5hours followed by a pause 0.5hour at $70 \pm 3^\circ\text{C}$. Cycle repeated 1000 hours Refer to JIS C 5201-1 4.25	$\Delta R : \pm 2.0\%$
Damp Heat with Load	$40 \pm 2^\circ\text{C}$ with relative humidity 90% to 95%. Cycle repeated 1,000 hours Refer to JIS C 5201-1 4.24	$\Delta R : \pm 2.0\%$
High Temperature Exposure	Kept at 170°C for 1,000 hours Refer to JIS C 5201-1 4.23.2	$\Delta R : \pm 2.0\%$
Solderability	Temperature of Solder : $245 \pm 5^\circ\text{C}$ Immersion Duration : 3 ± 0.5 seconds Refer to JIS C 5201-1 4.17	Uniform coating of solder cover minimum of 95% surface being immersed
Mechanical Shock	100 G's for 6milliseconds. 5 pulses Refer to JIS C 5201-1 4.21	$\Delta R : \pm 1.0\%$
Bending Test	Glass-Epoxy board thickness : 1.6mm Bending width : 2mm Between the fulcrums : 90mm Refer to JIS C 5201-1 4.33	$\Delta R : \pm 1.0\%$

6. Recommend Land Pattern

	W (mm)	L (mm)	D (mm)	t (μm)
1632W LF	3.5	2.4	0.9	105

t: Copper foil minimum thickness of PCB

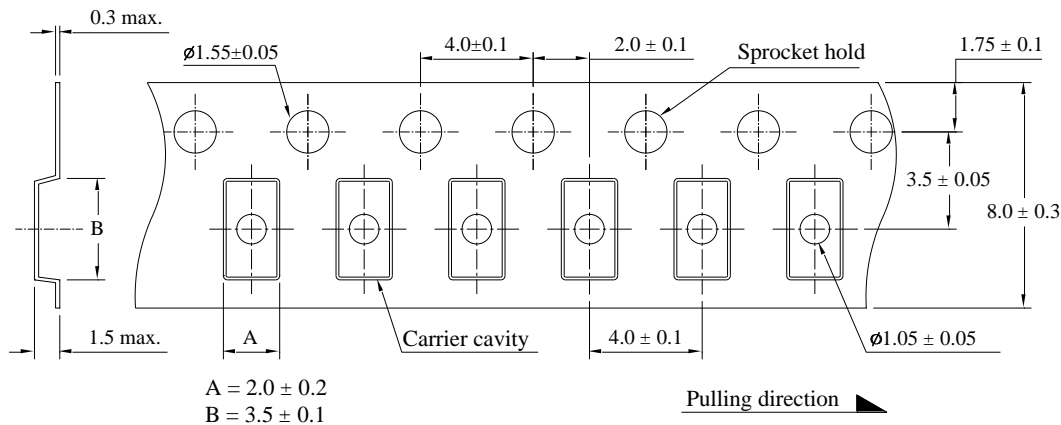
Note : We recommend there is no circuit design



7. Packaging

7-1 Dimensions

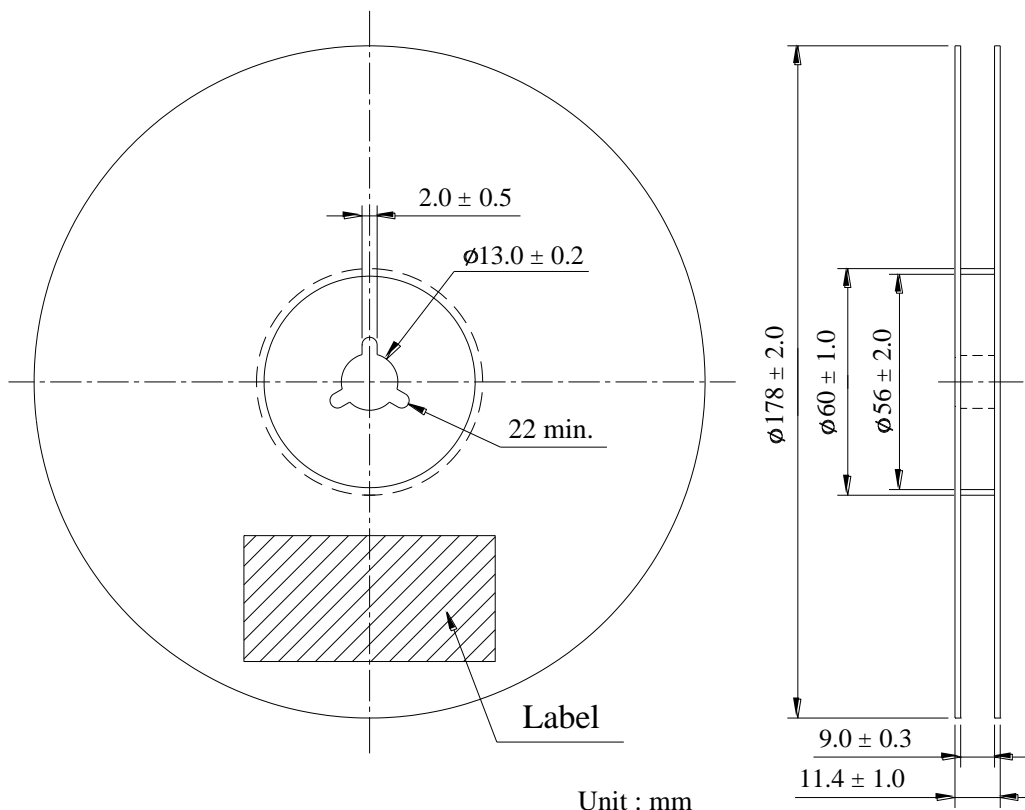
7-1-1 Tape packaging dimensions



$A = 2.0 \pm 0.2$
 $B = 3.5 \pm 0.1$

Unit : mm

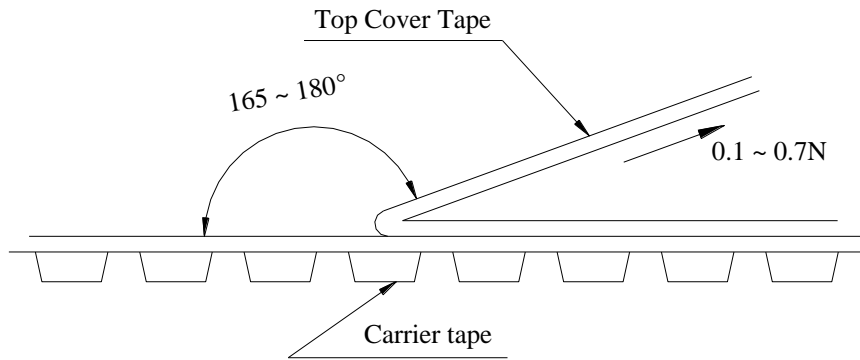
7-1-2 Reel dimensions



7-2 Peel Strength of Top Cover Tape

The peel speed shall be about 300mm/minute

The peel force of top cover tape shall be between 0.1 to 0.7N



7-3 Number of Taping

4,000 pieces / reel

7-4 Label marking

The following items shall be marked on the reel.

- (1) Type designation
- (2) Quantity
- (3) Manufacturing date code
- (4) Manufacturer's name
- (5) The country of origin