

SPECIFICATION FOR APPROVAL

2W, 2512, L Type Low Resistance Chip Resistor (Lead free / Halogen Free)

1. Scope

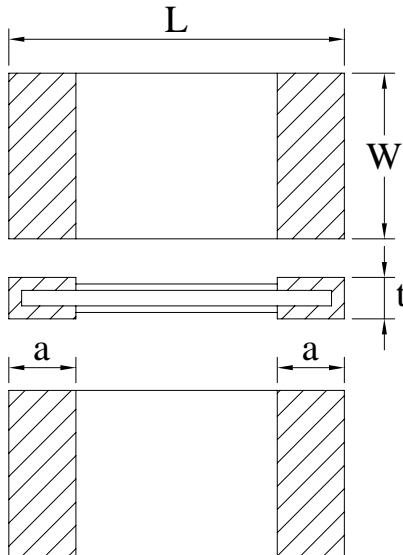
This specification applies to 3.2mm x 6.4mm size 2W, fixed metal foil current sensing resistors used in electronic equipment.

2. Type Designation

RL32649C – □□□□ – □
 (1) (2) (3)

- Where
- (1) Series No.
 - (2) Resistance value :
 For example :
 Four digits of number
 R001 = 1mΩ
 R002 = 2mΩ
 - (3) Tolerance :
 Refer to paragraph 4

3. Dimensions and schematic



Code Letter	Dimensions (mm)	
		3264
L	6.35 ± 0.25	
W	3.20 ± 0.20	
a	(1mΩ)	2.30 ± 0.15
	(2mΩ)	1.45 ± 0.15
t	0.70 ± 0.15	

Figure 1. Construction and Dimensions

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4. Specification

Characteristics	Feature
Power Rating*	2W
Resistance Value	1~2 mΩ
Temperature Coefficient of Resistance	± 75ppm/°C
Operation Temperature Range	-55°C ~ +170°C
Resistance Tolerance	± 1%(F) , ± 2%(G) , ± 5%(J)
Insulation Resistance	Over 100MΩ
Maximum Working Voltage (V)	$(P \cdot R)^{1/2}$

Note * :

Power rating 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.

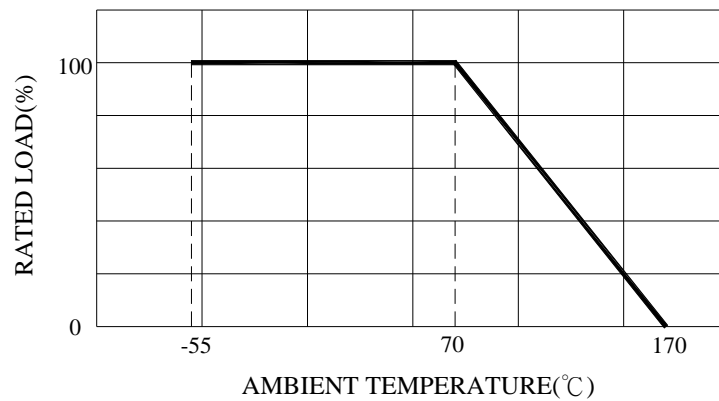


Figure 2. : Power Temperature Derating Curve



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5. Reliability Performance

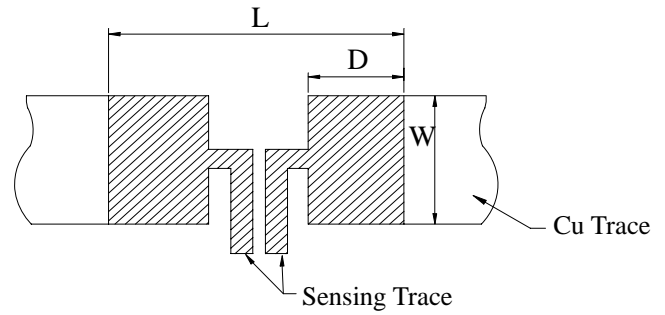
Test Item	Condition of Test	Requirements
Short Time Overload	2.5 x Rated power for 5 seconds Refer to JIS C 5201-1 4.13	$\Delta R : \pm (0.5\% + 0.0005\Omega)$
Thermal Shock	-55 ~150°C 1,000 cycles, 15 min at each extreme condition Refer to JIS C 5201-1 4.19	$\Delta R : \pm (0.5\% + 0.0005\Omega)$
Low Temperature Storage	Kept at -55°C, 1,000 hours Refer to JIS C 5201-1 4.23.4	$\Delta R : \pm (0.5\% + 0.0005\Omega)$
Resistance to Soldering Heat	Dipped into solder at $270 \pm 5^\circ\text{C}$ for 20 ± 1 seconds Refer to JIS C 5201-1 4.18	$\Delta R : \pm (0.5\% + 0.0005\Omega)$
Load Life	Rated voltage for 1.5hours followed by a pause 0.5hour at $70 \pm 3^\circ\text{C}$ Cycle repeated 1,000 hours Refer to JIS C 5201-1 4.25	$\Delta R : \pm (1.0\% + 0.0005\Omega)$
Damp Heat with Load	$40 \pm 2^\circ\text{C}$ with relative humidity 90% to 95%. D.C. rated voltage for 1.5 hours ON 30 minutes OFF. Cycle repeated 1,000 hours Refer to JIS C 5201-1 4.24	$\Delta R : \pm (1.0\% + 0.0005\Omega)$
High Temperature Exposure	Kept at 170°C for 1,000 hours Refer to JIS C 5201-1 4.23.2	$\Delta R : \pm (1.0\% + 0.0005\Omega)$
Solderability	Temperature of Solder : $245 \pm 5^\circ\text{C}$ Immersion Duration : 3 ± 0.5 second 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	$\Delta R : \pm (0.5\% + 0.0005\Omega)$
Substrate Bending	Glass-Epoxy board thickness : 1.6mm Bending width : 2mm Between the fulcrums : 90mm Refer to JIS C 5201-1 4.33	$\Delta R : \pm (0.5\% + 0.0005\Omega)$



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6. Recommended Solder Pad Dimensions

	W	L	D
3264	4.00	8.00	3.35



Note : We recommend there is no circuit design between pads to avoid circuit short

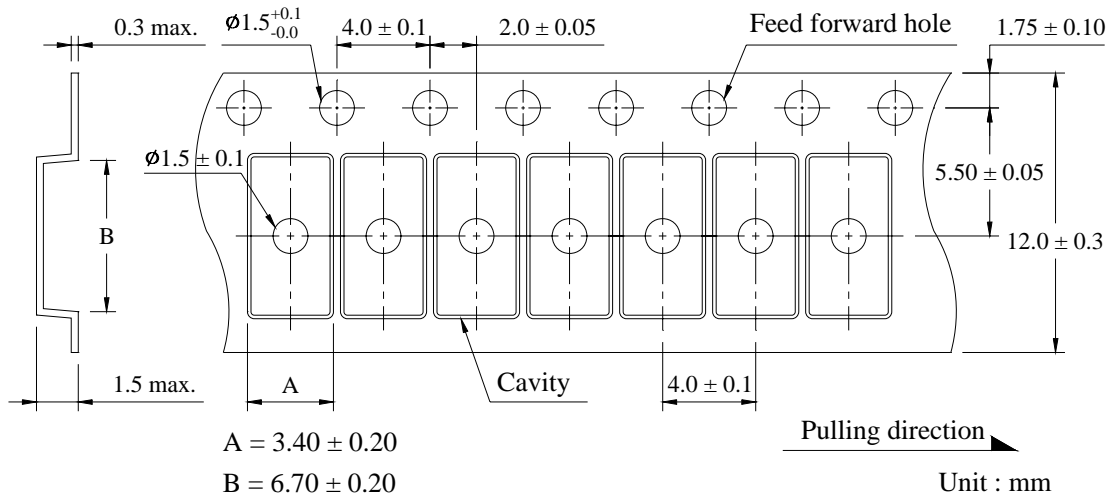


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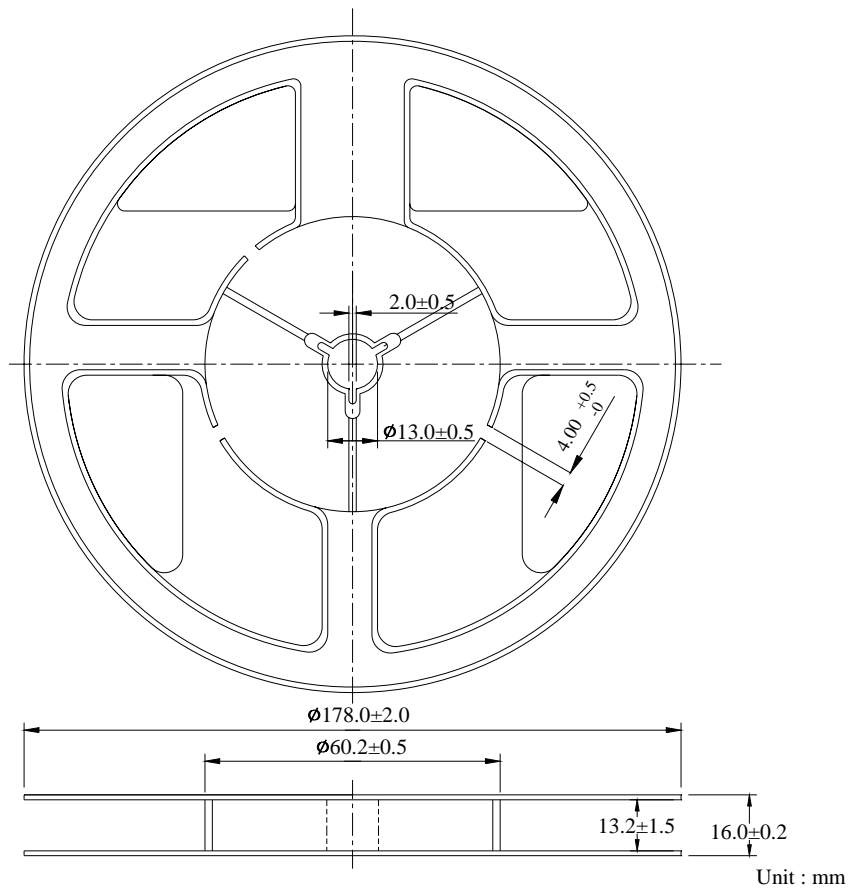
7. Packaging

7-1 Dimensions

7-1-1 Tape packaging dimensions



7-1-2 Reel dimensions

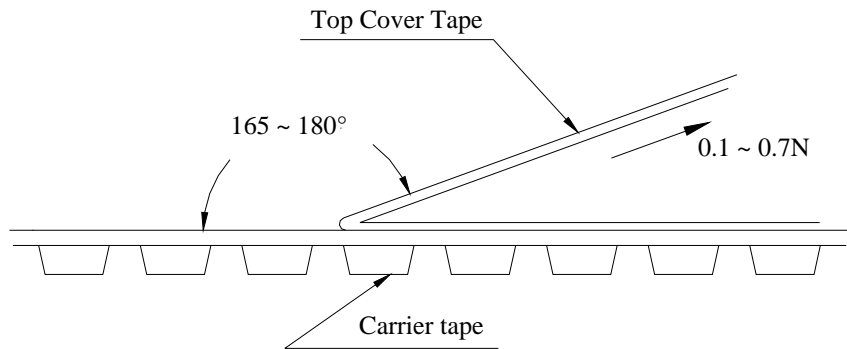


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7-2 Peel Strength of Top Cover Tape

The peel speed shall be about 300mm/min.

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



7-3 Number of Taping

2,000 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