

SPECIFICATION FOR APPROVAL

1W, 2512, SC Type Low Resistance Chip Resistor (Lead / Halogen Free)

1. Scope

This specification applies to 3.2mm x 6.4mm size 1W, fixed metal foil with ceramic carrier current sensing resistors used in electronic equipment.

2. Type Designation

RL32646C - -

(1) (2) (3)

Where (1) Series No.

(2) Resistance value :

For example :

R003 = 3mΩ

R050 = 50mΩ

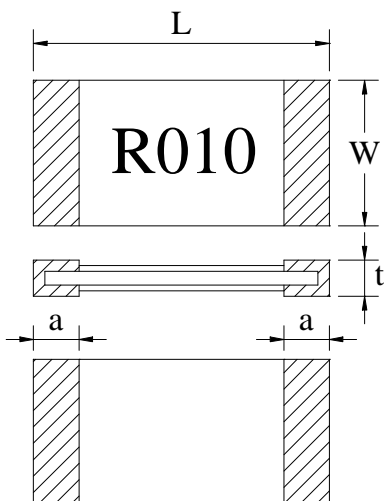
(3) Tolerance :

F= ± 1%

G= ± 2%

J= ± 5%

3. Type Designation



| Code Letter | Dimensions (mm) | |
|-------------|-----------------|-------------|
| | | 3264 |
| L | 6.35 ± 0.25 | |
| W | 3.20 ± 0.20 | |
| a | 0.90 ± 0.25 | |
| t | 3mΩ ~ 5mΩ, 7mΩ | 1.05 ± 0.15 |
| | 6mΩ, R > 8mΩ | 0.80 ± 0.15 |

Figure 1. Construction and Dimensions

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4. Specification

| Characteristics | Feature |
|---------------------------------------|---------------------|
| Power Rating* | 1W |
| Resistance Value | 3 ~ 100mΩ |
| Temperature Coefficient of Resistance | ±100ppm/°C |
| Operation Temperature Range | -55°C ~ +170°C |
| Resistance Tolerance | ±1% , ±2% , ±5% |
| 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.

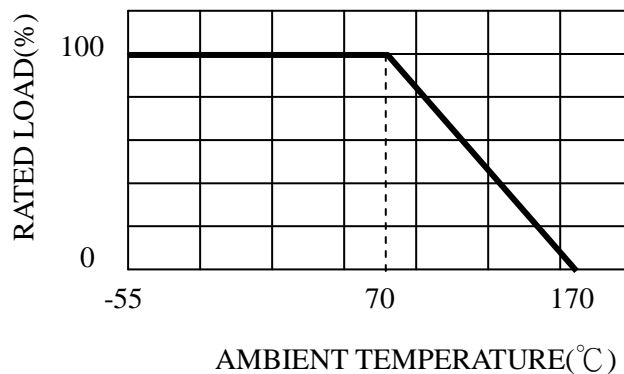


Figure 2. : Power Temperature Derating Curve



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DOCUMENT : SM6C0000NH

REVISION : A1

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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 | $\Delta R : \pm (0.5\% + 0.0005\Omega)$ Without significant damage by flashover (spark, arching), burning or breakdown etc. |
| Thermal Shock | -55 ~150°C 1,000 cycles, 15 min at each extreme condition Refer to JIS C 5201-1 4.19 | $\Delta R : \pm (0.5\% + 0.0005\Omega)$ Without distinct damage in appearance |
| Low Temperature Storage | Kept at -55°C, 1,000 hours Refer to JIS C 5201-1 4.23.4 | $\Delta R : \pm (0.5\% + 0.0005\Omega)$ Without distinct damage in appearance |
| Resistance to Soldering Heat | Dipped into solder at 270 ± 5 °C for 20 ± 1 seconds Refer to JIS C 5201-1 4.18 | $\Delta R : \pm (0.5\% + 0.0005\Omega)$ Without distinct damage in appearance |
| Load Life | Rated voltage for 1.5hours followed by a pause 0.5hour at 70 ± 3 °C Cycle repeated 1,000 hours Refer to JIS C 5201-1 4.25 | $\Delta R : \pm (1.0\% + 0.0005\Omega)$ Without distinct damage in appearance |
| Damp Heat with Load | 40 ± 2 °C with relative humidity 90% to 95%. D.C. rated voltage for 1.5 hours ON 30 minutes OFF. Cycle repeated 1,000 hours | $\Delta R : \pm (1.0\% + 0.0005\Omega)$ Without distinct damage in appearance |
| High Temperature Exposure | Kept at 170°C for 1,000 hours Refer to JIS C 5201-1 4.23.2 | $\Delta R : \pm (1.0\% + 0.0005\Omega)$ Without distinct damage in appearance |
| Solderability | Temperature of Solder : 245 ± 5 °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 |

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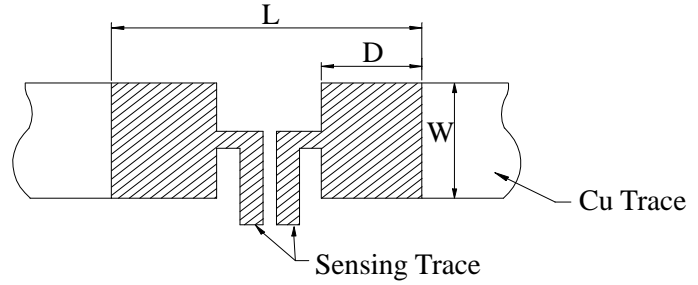
| Test Item | Condition of Test | Requirements |
|-------------------|---|---|
| Mechanical Shock | 100 G's for 6milliseconds. 5 pulses Refer to JIS C 5201-1 4.21 | $\Delta R : \pm (0.5\% + 0.0005\Omega)$ Without mechanical damage such as break |
| Substrate Bending | Glass-Epoxy board thickness : 1.6mm Bending width : 2mm Between the fulcrums : 90mm Refer to JIS C 5201-1 4.33 | $\Delta R : \pm (0.5\% + 0.0005\Omega)$ Without mechanical damage such as break |

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6. Recommended Solder Pad Dimensions

| | W | L | D |
|------|------|------|------|
| 3264 | 4.00 | 8.00 | 2.00 |

Unit : mm



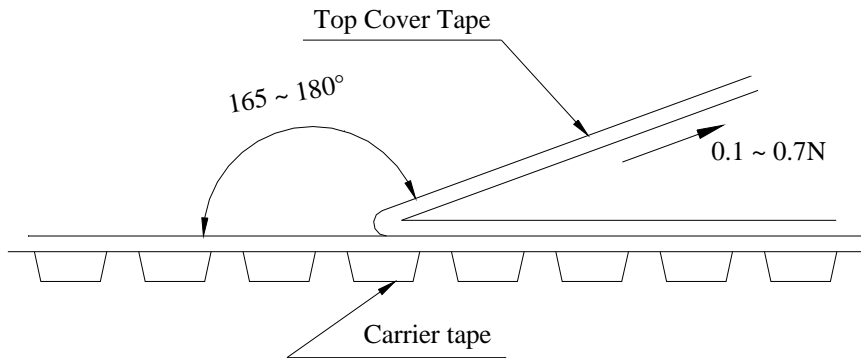
Note : We recommend there is no circuit design between pads to avoid circuit short

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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 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