

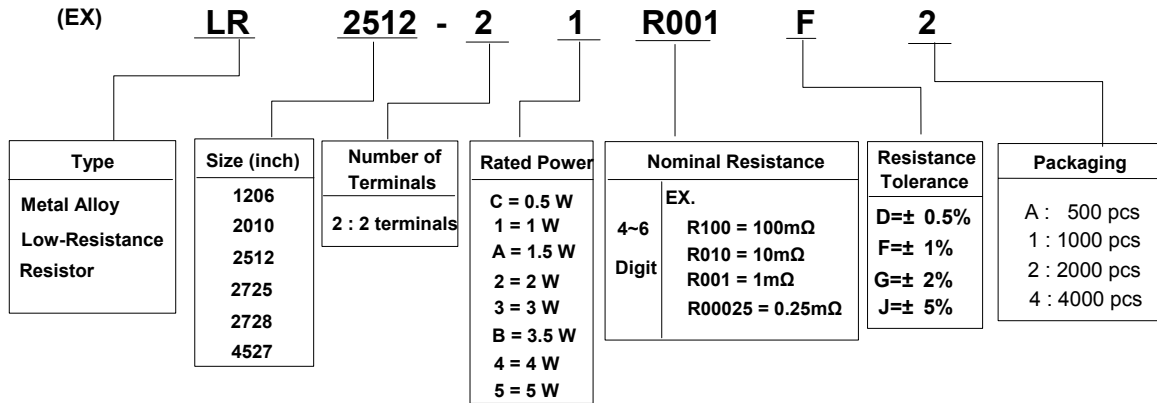
# Metal Alloy Low-Resistance Resistor Specifications

## 1 Scope:

This specification is applicable to lead free and halogen free for metal alloy low-resistance resistor by following products:

- LR1206 series
- LR2010 series
- LR2512 series
- LR2725 series
- LR2728 series
- LR4527 series

## 2 Explanation Of Part Numbers:



Approved

Checked

Written

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Series No. **60**

# Metal Alloy Low-Resistance Resistor Specifications

## 3 Product Specifications:

| Type   | Number of Terminals | Rated Power at 70°C | Max. Rated Current | Max. Overload Current | T.C.R ( ppm / °C )   | Resistance Range |                            | Operating Temperature Range |
|--------|---------------------|---------------------|--------------------|-----------------------|--|------------------|----------------------------|-----------------------------|
|        |                     |                     |                    |                       |  | D(± 0.5%)        | F(± 1%)、G(± 2%)<br>J(± 5%) |                             |
| LR1206 | 2                   | 0.5 W               | 22.36 A            | 44.72 A               | 1 ~ 4 mΩ ≤± 50<br>4.1 ~ 15 mΩ ≤± 25<br>15.1 ~ 50 mΩ ≤± 15  | 7 ~ 50 mΩ        | 1 ~ 50 mΩ                  | -55°C ~ +170°C              |
|        |                     | 1 W                 | 31.62 A            | 63.25 A               | 1 ~ 4 mΩ ≤± 50<br>4.1 ~ 15 mΩ ≤± 25<br>15.1 ~ 50 mΩ ≤± 15  | 7 ~ 50 mΩ        | 1 ~ 50 mΩ                  |                             |
| LR2010 | 2                   | 1 W                 | 31.62 A            | 63.25 A               | 1 ~ 3 mΩ ≤± 50<br>3.1 ~ 6.9 mΩ ≤± 25<br>7 ~ 100 mΩ ≤± 15   | 7 ~ 100 mΩ       | 1 ~ 100 mΩ                 |                             |
| LR2512 | 2                   | 1 W                 | 44.72 A            | 100.00 A              | 0.5 ~ 3 mΩ ≤± 50<br>3.1 ~ 6.9 mΩ ≤± 25<br>7 ~ 100 mΩ ≤± 15 | 7 ~ 100 mΩ       | 0.5 ~ 100 mΩ               |                             |
|        |                     | 1.5 W               | 54.77 A            | 122.48 A              | 0.5 ~ 3 mΩ ≤± 50<br>3.1 ~ 6.9 mΩ ≤± 25<br>7 ~ 75 mΩ ≤± 15  | 7 ~ 75 mΩ        | 0.5 ~ 75 mΩ                |                             |
|        |                     | 2 W                 | 63.25 A            | 141.42 A              | 0.5 ~ 2.5 mΩ ≤± 50<br>2.6 ~ 10 mΩ ≤± 25                    | 7 ~ 10 mΩ        | 0.5 ~ 10 mΩ                |                             |
|        |                     | 3 W                 | 77.46 A            | 134.16 A              | 0.5 ~ 2.5 mΩ ≤± 50<br>2.6 ~ 10 mΩ ≤± 25                    | 7 ~ 10 mΩ        | 0.5 ~ 10 mΩ                |                             |
| LR2725 | 2                   | 4 W                 | 126.49 A           | 252.95 A              | ≤± 50  | --               | 0.25 ~ 3 mΩ                |                             |
| LR2728 | 2                   | 3 W                 | 27.39 A            | 47.43 A               | 4 ~ 7 mΩ ≤± 25<br>7.1 ~ 100 mΩ ≤± 15                       | 4 ~ 100 mΩ       |                            |                             |
|        |                     | 3.5 W               | 29.58 A            | 51.23 A               | 4 ~ 7 mΩ ≤± 25<br>7.1 ~ 50 mΩ ≤± 15                        | 4 ~ 50 mΩ        |                            |                             |
|        |                     | 4 W                 | 31.62 A            | 63.25 A               | 4 ~ 7 mΩ ≤± 25<br>7.1 ~ 50 mΩ ≤± 15                        | 4 ~ 50 mΩ        |                            |                             |
| LR4527 | 2                   | 3 W                 | 77.5A              | 134A                  | ≤± 50  | 7 ~ 120 mΩ       | 0.5 ~ 120 mΩ               |                             |
|        |                     | 5 W                 | 100A               | 173A                  |  |                  |                            |                             |

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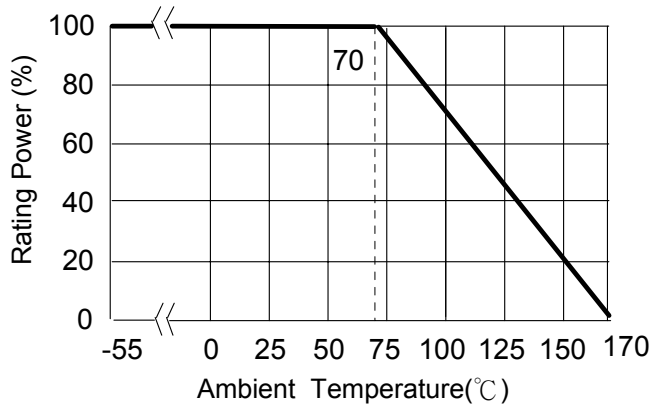
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# Metal Alloy Low-Resistance Resistor Specifications

|               |            |
|---------------|------------|
| Document No.  | IE-SP-022  |
| Released Date | 2011/10/19 |
| Page No.      | 3/13       |

3.1 Power Derating Curve: Operating Temperature Range : - 55 ~+170 °C  
 For resistors operated in ambient temperatures above 70 °C, power rating shall be derated in accordance with figure below.



### 3.2 Rating Current:

Rated Current: The resistor shall have a DC continuous working current or a RMS(Root Mean Square). AC continuous working current at commercial-line frequency and wave form corresponding to the power rating, as determined from the following:

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

I= Rating current (A)

P= Rating power (w)

R= Nominal resistance (Ω)

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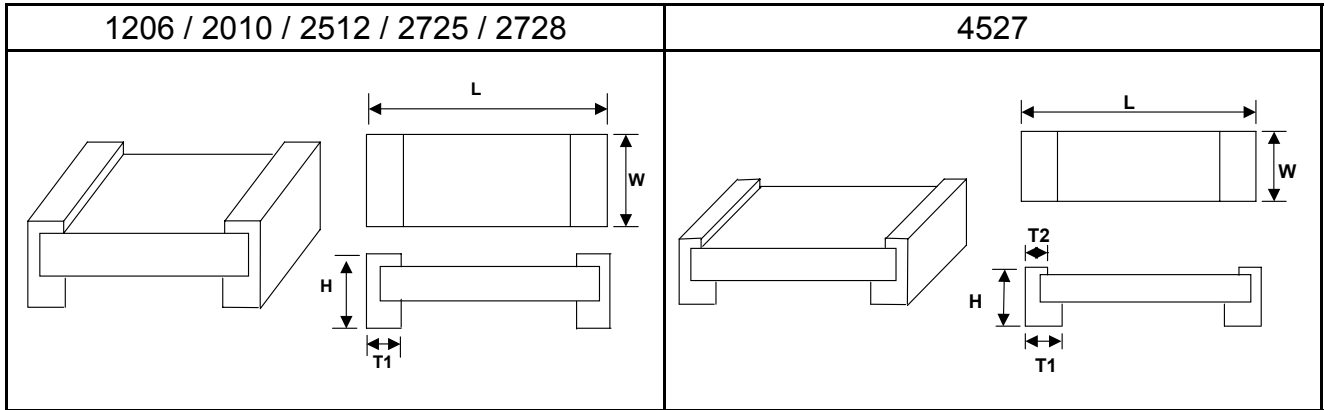
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Series No. **60**

# Metal Alloy Low-Resistance Resistor Specifications

## 4 Dimensions:



| TYPE   | Power Rating (W) | Resistance Range (mΩ) | Dimensions (mm) |              |              |              |             |
|--------|------------------|-----------------------|-----------------|--------------|--------------|--------------|-------------|
|        |                  |                       | L               | W            | H            | T1           | T2          |
| LR1206 | 0.5<br>1         | 1~50                  | 3.200± 0.254    | 1.600± 0.254 | 0.645± 0.254 | 0.508± 0.254 |             |
| LR2010 | 1                | 1.0~3                 | 5.080± 0.254    | 2.540± 0.254 | 0.787± 0.254 | 1.295± 0.254 |             |
|        |                  | 3.1~100               |                 |              | 0.645± 0.254 | 0.787± 0.254 |             |
| LR2512 | 1<br>1.5         | 0.5~4                 | 6.248± 0.254    | 3.302± 0.254 | 0.787± 0.254 | 1.880± 0.254 |             |
|        |                  | 4.1~75                |                 |              | 0.645± 0.254 | 1.118± 0.254 |             |
|        |                  | 75.1~100              |                 |              | 0.645± 0.254 | 0.868± 0.254 |             |
|        | 2                | 0.5~4                 |                 |              | 0.787± 0.254 | 1.880± 0.254 |             |
|        |                  | 4.1~75                |                 |              | 0.645± 0.254 | 1.118± 0.254 |             |
|        | 3                | 0.5                   |                 |              |              | 1.880± 0.254 |             |
|        |                  | 0.6~2.9               |                 |              | 0.787± 0.254 | 1.118± 0.254 |             |
|        |                  | 4.1~10                |                 |              |              | 1.676± 0.254 |             |
| LR2725 | 4                | 0.25、0.5              | 6.807± 0.254    | 6.452± 0.254 | 0.991± 0.254 | 2.159± 0.254 |             |
|        |                  | 1                     |                 |              | 1.092± 0.254 |              |             |
|        |                  | 1.5                   |                 |              | 0.991± 0.254 |              |             |
|        |                  | 2                     |                 |              | 0.889± 0.254 | 1.803± 0.254 |             |
|        |                  | 2.5                   |                 |              |              | 1.651± 0.254 |             |
|        |                  | 3                     |                 |              |              | 1.295± 0.254 |             |
| LR2728 | 3<br>3.5<br>4    | 4~100                 | 6.706± 0.254    | 7.188± 0.254 | 0.991± 0.254 | 1.143± 0.254 |             |
| LR4527 | 3<br>5           | 0.5                   | 11.430± 0.254   | 6.850± 0.254 | 1.500± 0.254 | 3.215±0.254  | 3.215±0.254 |
|        |                  | 0.6~5.0               |                 |              |              |              | 0.965±0.254 |
|        |                  | 5.1~120               |                 |              |              | 1.815±0.254  |             |

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# Metal Alloy Low-Resistance Resistor Specifications

## 5 Reliability Performance Test

### 5.1 Electrical Performance Test

| Item                                  | Conditions  | Specifications   |          |             |                        |           |                        |           |                        |           |                        |             |                        |           |                        |           |                        |           |                        |           |                        |             |                        |           |                        |           |                        |           |                        |  |
|---------------------------------------|---|--|----------|-------------|------------------------|-----------|------------------------|-----------|------------------------|-----------|------------------------|-------------|------------------------|-----------|------------------------|-----------|------------------------|-----------|------------------------|-----------|------------------------|-------------|------------------------|-----------|------------------------|-----------|------------------------|-----------|------------------------|--|
| Temperature Coefficient of Resistance | $TCR (ppm/^{\circ}C) = \frac{(R2 - R1)}{R1 (T2 - T1)} \times 10^6$ R1: Resistance at room temperature<br>R2: Resistance at +150°C<br>T1: Room temperature<br>T2: Temperature at +150°C<br>Refer to JIS-C5201-1 4.8  | Refer to Paragraph 3. general specifications             |          |             |                        |           |                        |           |                        |           |                        |             |                        |           |                        |           |                        |           |                        |           |                        |             |                        |           |                        |           |                        |           |                        |  |
| Short Time Overload                   | Applied Overload for 5 seconds and release the load for about 30 minutes , then measure its resistance variance rate. (Overload condition refer to below)   | $\leq \pm 0.5\%$<br>$\leq \pm 2.0\%$ (4527-3W & 4527-5W) |          |             |                        |           |                        |           |                        |           |                        |             |                        |           |                        |           |                        |           |                        |           |                        |             |                        |           |                        |           |                        |           |                        |  |
|                                       |   | No evidence of mechanical damage.                        |          |             |                        |           |                        |           |                        |           |                        |             |                        |           |                        |           |                        |           |                        |           |                        |             |                        |           |                        |           |                        |           |                        |  |
|                                       | <table border="1"> <thead> <tr> <th>Type</th> <th>Overload</th> </tr> </thead> <tbody> <tr><td>LR1206-0.5W</td><td>4 times of rated power</td></tr> <tr><td>LR1206-1W</td><td>4 times of rated power</td></tr> <tr><td>LR2010-1W</td><td>4 times of rated power</td></tr> <tr><td>LR2512-1W</td><td>5 times of rated power</td></tr> <tr><td>LR2512-1.5W</td><td>5 times of rated power</td></tr> <tr><td>LR2512-2W</td><td>5 times of rated power</td></tr> <tr><td>LR2512-3W</td><td>3 times of rated power</td></tr> <tr><td>LR2725-4W</td><td>4 times of rated power</td></tr> <tr><td>LR2728-3W</td><td>3 times of rated power</td></tr> <tr><td>LR2728-3.5W</td><td>3 times of rated power</td></tr> <tr><td>LR2728-4W</td><td>4 times of rated power</td></tr> <tr><td>LR4527-3W</td><td>3 times of rated power</td></tr> <tr><td>LR4527-5W</td><td>3 times of rated power</td></tr> </tbody> </table> Refer to JIS-C5201-1 4.13 | Type   | Overload | LR1206-0.5W | 4 times of rated power | LR1206-1W | 4 times of rated power | LR2010-1W | 4 times of rated power | LR2512-1W | 5 times of rated power | LR2512-1.5W | 5 times of rated power | LR2512-2W | 5 times of rated power | LR2512-3W | 3 times of rated power | LR2725-4W | 4 times of rated power | LR2728-3W | 3 times of rated power | LR2728-3.5W | 3 times of rated power | LR2728-4W | 4 times of rated power | LR4527-3W | 3 times of rated power | LR4527-5W | 3 times of rated power |  |
| Type                                  | Overload  |  |          |             |                        |           |                        |           |                        |           |                        |             |                        |           |                        |           |                        |           |                        |           |                        |             |                        |           |                        |           |                        |           |                        |  |
| LR1206-0.5W                           | 4 times of rated power  |  |          |             |                        |           |                        |           |                        |           |                        |             |                        |           |                        |           |                        |           |                        |           |                        |             |                        |           |                        |           |                        |           |                        |  |
| LR1206-1W                             | 4 times of rated power  |  |          |             |                        |           |                        |           |                        |           |                        |             |                        |           |                        |           |                        |           |                        |           |                        |             |                        |           |                        |           |                        |           |                        |  |
| LR2010-1W                             | 4 times of rated power  |  |          |             |                        |           |                        |           |                        |           |                        |             |                        |           |                        |           |                        |           |                        |           |                        |             |                        |           |                        |           |                        |           |                        |  |
| LR2512-1W                             | 5 times of rated power  |  |          |             |                        |           |                        |           |                        |           |                        |             |                        |           |                        |           |                        |           |                        |           |                        |             |                        |           |                        |           |                        |           |                        |  |
| LR2512-1.5W                           | 5 times of rated power  |  |          |             |                        |           |                        |           |                        |           |                        |             |                        |           |                        |           |                        |           |                        |           |                        |             |                        |           |                        |           |                        |           |                        |  |
| LR2512-2W                             | 5 times of rated power  |  |          |             |                        |           |                        |           |                        |           |                        |             |                        |           |                        |           |                        |           |                        |           |                        |             |                        |           |                        |           |                        |           |                        |  |
| LR2512-3W                             | 3 times of rated power  |  |          |             |                        |           |                        |           |                        |           |                        |             |                        |           |                        |           |                        |           |                        |           |                        |             |                        |           |                        |           |                        |           |                        |  |
| LR2725-4W                             | 4 times of rated power  |  |          |             |                        |           |                        |           |                        |           |                        |             |                        |           |                        |           |                        |           |                        |           |                        |             |                        |           |                        |           |                        |           |                        |  |
| LR2728-3W                             | 3 times of rated power  |  |          |             |                        |           |                        |           |                        |           |                        |             |                        |           |                        |           |                        |           |                        |           |                        |             |                        |           |                        |           |                        |           |                        |  |
| LR2728-3.5W                           | 3 times of rated power  |  |          |             |                        |           |                        |           |                        |           |                        |             |                        |           |                        |           |                        |           |                        |           |                        |             |                        |           |                        |           |                        |           |                        |  |
| LR2728-4W                             | 4 times of rated power  |  |          |             |                        |           |                        |           |                        |           |                        |             |                        |           |                        |           |                        |           |                        |           |                        |             |                        |           |                        |           |                        |           |                        |  |
| LR4527-3W                             | 3 times of rated power  |  |          |             |                        |           |                        |           |                        |           |                        |             |                        |           |                        |           |                        |           |                        |           |                        |             |                        |           |                        |           |                        |           |                        |  |
| LR4527-5W                             | 3 times of rated power  |  |          |             |                        |           |                        |           |                        |           |                        |             |                        |           |                        |           |                        |           |                        |           |                        |             |                        |           |                        |           |                        |           |                        |  |
| Insulation Resistance                 | Put the resistor in the fixture, add 100 VDC in + , - terminal for 60secs then measured the insulation resistance between electrodes and insulating enclosure or between electrodes and base material.<br>Refer to JIS-C5201-1 4.6  | $\geq 10^9 \Omega$                                       |          |             |                        |           |                        |           |                        |           |                        |             |                        |           |                        |           |                        |           |                        |           |                        |             |                        |           |                        |           |                        |           |                        |  |
| Dielectric Withstand Voltage          | Applied 500VAC for 1 minute, and Limit surge current 50 mA (max.)<br>Refer to JIS-C5201-1 4.7   | No short or burned on the appearance.                    |          |             |                        |           |                        |           |                        |           |                        |             |                        |           |                        |           |                        |           |                        |           |                        |             |                        |           |                        |           |                        |           |                        |  |

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**5.2 Mechanical Performance Test**

| Item                         | Conditions   | Specifications                               |
|------------------------------|--|--|
| Solderability                | Add flux into tested resistors, immersion into solder bath in temperature 245± 5°C for 3 ± 0.5 secs.<br>Refer to JIS-C5201-1 4.17  | Solder coverage over 95%                     |
| Resistance to Solvent        | The tested resistor be immersed into isopropyl alcohol of 20~25°C for 60 secs, then the resistor is left in the room for 48 hrs.<br>Refer to JIS-C5201-1 4.29  | ≤± 0.5%<br>No evidence of mechanical damage. |
| Resistance to Soldering Heat | The tested resistor be immersed 25 mm/sec into molten solder of 260 ± 5°C for 10 ± 1 secs. Then the resistor is left in the room for 1 hour , and measured its resistance variance rate.<br>Refer to JIS-C5201-1 4.18  | ≤± 0.5%<br>No evidence of mechanical damage. |
| Vibration                    | The resistor shall be mounted by its terminal leads to the supporting terminals on the solid table.<br>The entire frequency range :from 10 Hz to 55 Hz and return to 10 Hz, shall be transferred in 1 min.<br>Amplitude : 1.5 mm<br>This motion shall be applied for a period of 4 hours in each 3 mutually perpendicular directions (a total of 12 hr)<br>Refer to JIS-C5201-1 4.22 | ≤± 0.5%<br>No evidence of mechanical damage. |

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**5.3 Environmental Test**

| Item   | Conditions   | Specifications   |                   |                    |                            |                     |                            |                            |         |   |
|--|--|--|-------------------|--------------------|----------------------------|---------------------|----------------------------|----------------------------|---------|---|
| High Temperature Exposure                      | Put tested resistor in chamber under temperature $170 \pm 5^\circ\text{C}$ for 1000 hours. Then leaving the tested resistor in room temperature for 60 minutes, and measure its resistance variance rate.<br>Refer to JIS-C5201-1 4.23.2   | $\leq \pm 1.0\%$<br>No evidence of mechanical damage.    |                   |                    |                            |                     |                            |                            |         |   |
| Low Temperature Exposure                       | Put the tested resistor in chamber under temperature $-55 \pm 2^\circ\text{C}$ for 1000 hours. Then leaving the tested resistor in room temperature for 60 minutes, and measure its resistance variance rate.<br>Refer to JIS-C5201-1 4.23.4   | $\leq \pm 0.5\%$<br>No evidence of mechanical damage.    |                   |                    |                            |                     |                            |                            |         |   |
| Temperature cycling (Rapid Temperature Change) | Put the tested resistor in the chamber under the temperature cycling which shown in the following table shall be repeated 1000 times consecutively. Then leaving the tested resistor in the room temperature for 60 minutes, and measure its resistance variance rate.<br><table border="1" data-bbox="355 922 970 1059"> <thead> <tr> <th></th> <th>Testing Condition</th> </tr> </thead> <tbody> <tr> <td>Lowest Temperature</td> <td><math>-55 +0/-10^\circ\text{C}</math></td> </tr> <tr> <td>Highest Temperature</td> <td><math>150 +10/-0^\circ\text{C}</math></td> </tr> <tr> <td>Temperature-retaining time</td> <td>15 min.</td> </tr> </tbody> </table><br>Refer to JIS-C5201-1 4.19 |  | Testing Condition | Lowest Temperature | $-55 +0/-10^\circ\text{C}$ | Highest Temperature | $150 +10/-0^\circ\text{C}$ | Temperature-retaining time | 15 min. | $\leq \pm 0.5\%$<br>No evidence of mechanical damage. |
|  |  |  | Testing Condition |                    |                            |                     |                            |                            |         |   |
| Lowest Temperature                             | $-55 +0/-10^\circ\text{C}$   |  |                   |                    |                            |                     |                            |                            |         |   |
| Highest Temperature                            | $150 +10/-0^\circ\text{C}$   |  |                   |                    |                            |                     |                            |                            |         |   |
| Temperature-retaining time                     | 15 min.  |  |                   |                    |                            |                     |                            |                            |         |   |
| Moisture Resistance (Climatic Sequence)        | Put the tested resistor in chamber and subject to 10 cycles of damp heat. Each one of which consists of the steps 1 to 7 (Figure 1). Then leaving the tested resistor in room temperature for 24 hr, and measure its resistance variance rate.<br>Refer to MIL-STD 202 Method 106  | $\leq \pm 0.5\%$<br>No evidence of mechanical damage.    |                   |                    |                            |                     |                            |                            |         |   |
| Moisture Life                                  | Put the tested resistor in chamber under $85 \pm 5^\circ\text{C} / 85 \pm 5\% \text{RH}$ with 10% bias and load the rated voltage for 90 minutes on, 30 minutes off, total 1000 hours. Then leaving the tested resistor in room temperature for 60 minutes, and measure its resistance variance rate.<br>Refer to JIS-C5201-1 4.24   | $\leq \pm 0.5\%$<br>No evidence of mechanical damage.    |                   |                    |                            |                     |                            |                            |         |   |
| Load Life                                      | Put the tested resistor in chamber under temperature $70 \pm 2^\circ\text{C}$ and load the rated voltage for 90 minutes on, 30 minutes off, total 1000 hours. Then leaving the tested resistor in room temperature for 60 minutes, and measure its resistance variance rate.<br>Refer to JIS-C5201-1 4.25  | $\leq \pm 1.0\%$<br>$\leq \pm 2.0\%$ (4527-3W & 4527-5W) |                   |                    |                            |                     |                            |                            |         |   |
|  |  | No evidence of mechanical damage.                        |                   |                    |                            |                     |                            |                            |         |   |

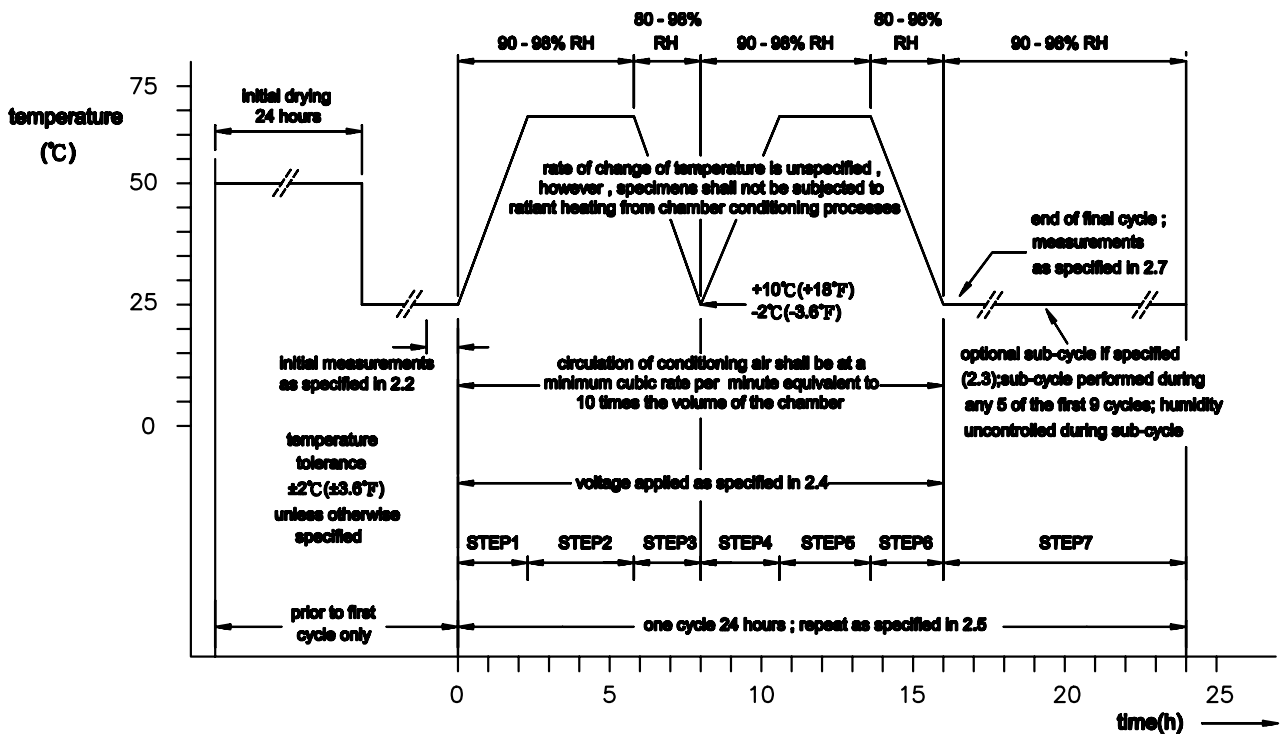
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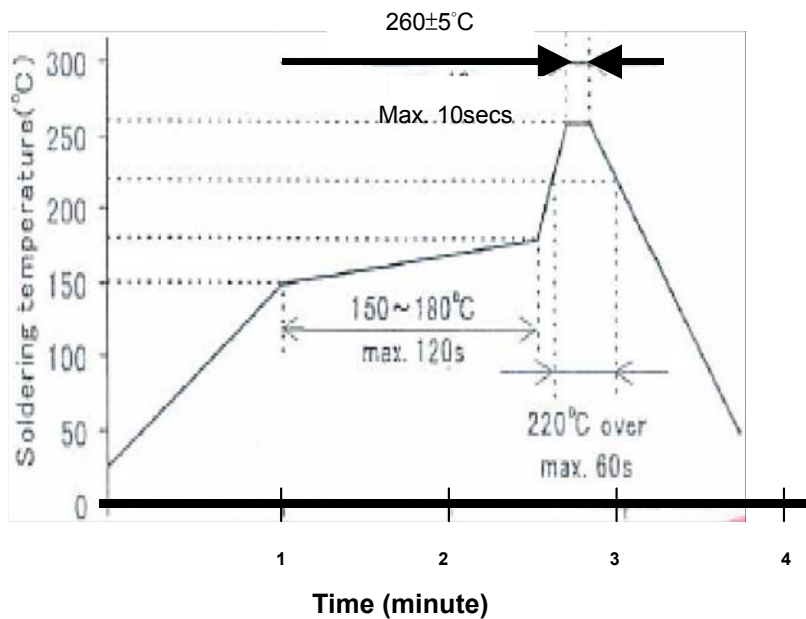
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<Figure 1>

## 6 Recommend Soldering Method

### 6.1 IR Reflow Soldering Profile



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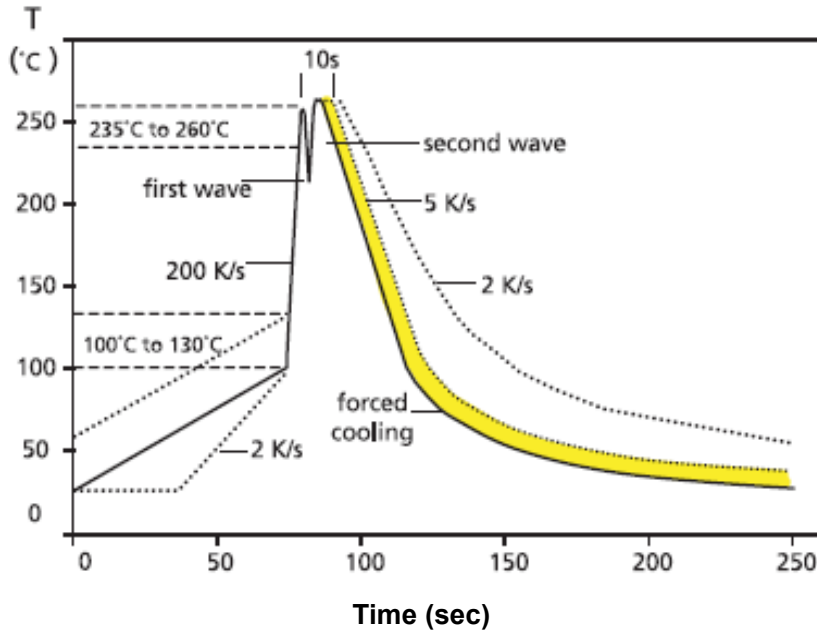
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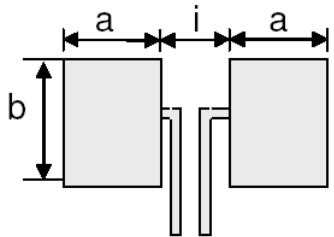


6.2 Wave Soldering Profile



7 Recommend Land Pattern :

Unit : mm



| TYPE   | Maximum Power Rating (Watts) | Land Pattern Dimensions |      |      |      |
|--------|------------------------------|-------------------------|------|------|------|
|        |                              | Resistance Range (mΩ)   | a    | b    | i    |
| LR1206 | 0.5 & 1.0                    | 1.0~50.0                | 1.60 | 2.18 | 1.00 |
| LR2010 | 1.0                          | 1.0~3.0                 | 2.89 | 2.92 | 1.22 |
|        |                              | 3.1~100.0               | 2.29 | 2.92 | 2.41 |
| LR2512 | 1.0 & 1.5                    | 0.5~4.0                 | 3.05 | 3.68 | 1.27 |
|        |                              | 4.1~100.0               | 2.11 | 3.68 | 3.18 |
| LR2512 | 2.0                          | 0.5~4.0                 | 3.05 | 3.68 | 1.27 |
|        |                              | 4.1~75.0                | 2.11 | 3.68 | 3.18 |
| LR2512 | 3.0                          | 0.50                    | 3.05 | 3.68 | 1.27 |
|        |                              | 0.6~2.9 & 4.1~10.0      | 2.19 | 3.68 | 3.00 |
|        |                              | 3.0 ~ 4.0               | 2.79 | 3.68 | 1.80 |
| LR2725 | 4.0                          | 0.25~3.0                | 3.18 | 6.86 | 1.32 |
| LR2728 | 3.0、3.5 & 4.0                | 4.0~100.0               | 2.75 | 7.82 | 3.51 |
| LR4527 | 3.0 & 5.0                    | 0.5~5.0                 | 4.80 | 8.74 | 5.51 |
|        |                              | 5.1~120                 | 3.40 | 8.74 | 8.31 |

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**8 Marking (All the products marking are 4 digits)**

**8.1 LR1206**

《EX》 Marking → R010 = 10 mΩ



**8.2 LR2010**

《EX》 Marking → R002 = 2 mΩ (below or equal than 3 mΩ)

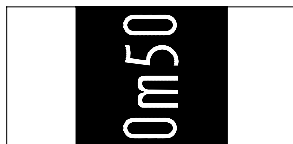


《EX》 Marking → R005 = 5 mΩ (greater than 3 mΩ)



**8.3 LR2512**

《EX》 Marking → 0m50 = 0.5 mΩ (below than 1 mΩ)



《EX》 Marking → R003 = 3 mΩ (below or equal than 4 mΩ)



《EX》 Marking → R005 = 5 mΩ (greater than 4 mΩ)



Remark

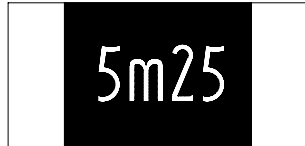
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《EX》 Marking → 5m25 = 5.25 mΩ (greater than 4 mΩ)

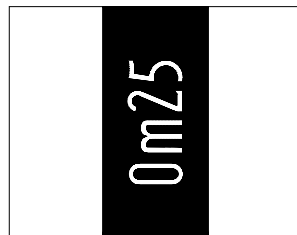


《EX》 Marking → 25m5 = 25.5 mΩ (greater than 4 mΩ)

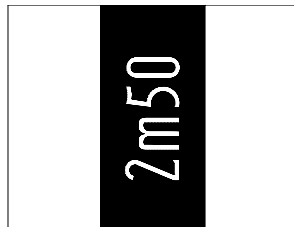


**8.4 LR2725**

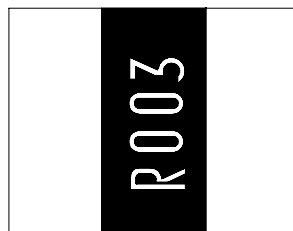
《EX》 Marking → 0m25 = 0.25 mΩ (for 0.25 mΩ only)



《EX》 Marking → 2m50 = 2.5 mΩ (for 2.5 mΩ only)



《EX》 Marking → R003 = 3 mΩ (for 1 mΩ · 2 mΩ and 3 mΩ only)



Remark

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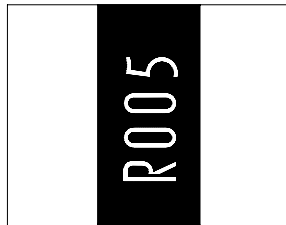
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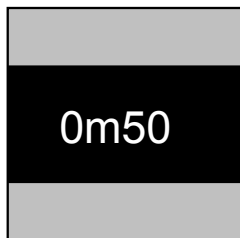
### 8.5 LR2728

《EX》 Marking → R005 = 5 mΩ

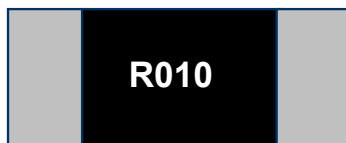


### 8.6 LR4527

《EX》 Marking → 0m50 = 0.5 mΩ (for 0.50 mΩ only)



《EX》 Marking → R010 = 10 mΩ



《EX》 Marking → 15m5 = 15.5 mΩ



### 8.7 Marking Style

| Marking Type | R | m | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
|--------------|---|---|---|---|---|---|---|---|---|---|---|---|
| LR1206       |   |   |   |   |   |   |   |   |   |   |   |   |
| LR2010       | R | m | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
| LR2512       |   |   |   |   |   |   |   |   |   |   |   |   |
| LR2725       |   |   |   |   |   |   |   |   |   |   |   |   |
| LR2728       |   |   |   |   |   |   |   |   |   |   |   |   |
| LR4527       |   |   |   |   |   |   |   |   |   |   |   |   |

Remark

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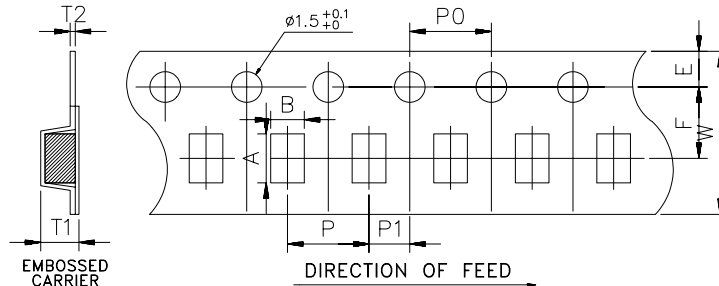
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### 9 Taping Specifications

#### 9.1 Tape Dimension:



unit : mm

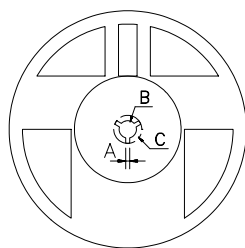
| DIM TYPE | A           | B          | W          | E          | F          | T1         | T2         | P          | P0        | 10x P0     | P1        |
|----------|-------------|------------|------------|------------|------------|------------|------------|------------|-----------|------------|-----------|
| LR1206   | 3.48± 0.10  | 1.83± 0.10 | 8.0± 0.15  | 1.75± 0.10 | 3.5± 0.10  | 0.90± 0.10 | 0.20± 0.05 | 4.0± 0.10  | 4.0± 0.10 | 40.0± 0.20 | 2.0± 0.10 |
| LR2010   | 5.45± 0.10  | 2.90± 0.10 | 12.0± 0.15 | 1.75± 0.10 | 5.5± 0.10  | 1.10± 0.10 | 0.23± 0.05 | 4.0± 0.10  | 4.0± 0.10 | 40.0± 0.20 | 2.0± 0.10 |
| LR2512   | 6.74± 0.10  | 3.90± 0.10 | 12.0± 0.15 | 1.75± 0.10 | 5.5± 0.10  | 1.08± 0.10 | 0.24± 0.05 | 8.0± 0.10  | 4.0± 0.10 | 40.0± 0.20 | 2.0± 0.10 |
| LR2725   | 7.15± 0.10  | 6.75± 0.10 | 12.0± 0.15 | 1.75± 0.10 | 5.5± 0.10  | 1.70± 0.10 | 0.25± 0.05 | 8.0± 0.10  | 4.0± 0.10 | 40.0± 0.20 | 2.0± 0.10 |
| LR2728   | 7.15± 0.10  | 7.70± 0.10 | 12.0± 0.15 | 1.75± 0.10 | 5.5± 0.10  | 1.20± 0.10 | 0.25± 0.05 | 12.0± 0.10 | 4.0± 0.10 | 40.0± 0.20 | 2.0± 0.10 |
| LR4527   | 11.80± 0.10 | 7.20± 0.10 | 24.0± 0.15 | 1.75± 0.10 | 11.5± 0.10 | 1.70± 0.10 | 0.30± 0.10 | 12.0± 0.10 | 4.0± 0.10 | 40.0± 0.20 | 2.0± 0.10 |

#### 9.2 Packaging Quantity:

| Type   | Tape Width | Packaging Quantity ( pcs/reel ) |            |             |
|--------|------------|---------------------------------|------------|-------------|
|        |            | Emboss Plastic Type             |            |             |
|        |            | 4 mm Pitch                      | 8 mm Pitch | 12 mm Pitch |
| LR1206 | 8 mm       | 4000 pcs                        |            |             |
| LR2010 | 12 mm      | 2000 pcs                        |            |             |
| LR2512 | 12 mm      |                                 | 2000 pcs   |             |
| LR2725 | 12 mm      |                                 | 1000 pcs   |             |
| LR2728 | 12 mm      |                                 |            | 1000 pcs    |
| LR4527 | 24 mm      |                                 |            | 500 pcs     |

#### 9.3 Reel Dimensions:

Unit : mm



| Reel Type/ Tape        | W             | M            | A            | B             | C             | D             |
|------------------------|---------------|--------------|--------------|---------------|---------------|---------------|
| 7" reel for 8 mm tape  | 12.0<br>± 0.5 | 178<br>± 1.0 | 2.0<br>± 0.5 | 13.2<br>± 0.5 | 17.7<br>± 0.5 | 60.0<br>± 0.5 |
| 7" reel for 12 mm tape | 16.2<br>± 0.5 |              | 2.5<br>± 0.5 | 13.5<br>± 0.5 |               | 60.0<br>± 0.5 |
| 7" reel for 24 mm tape | 24.4<br>+2/-0 |              | 2.0<br>± 0.5 | 13.2<br>± 0.5 |               | 60.0<br>± 0.5 |

### 10 Attachments

#### 10.1 Document Revise Record

(QA-QR-027)

|        |  |                         |
|--------|--|-------------------------|
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