

## THICK FILM CHIP RESISTORS

### 厚膜晶片電阻器



#### Features

1. Miniature size can compact P.C. Board,
2. 8mm tape carrier packaging available for automatic surface mounting.
3. Excellent mechanical strength and electrical stability.
4. Reducing assembly costs.

#### 特色

1. 小型化適用於高精密電子產品之小型基板。
2. 8mm帶裝方式適用於自動表面黏著。
3. 具有高強度安定性和高信賴性。
4. 降低裝配費用。

## ELECTRICAL AND MECHANICAL PERFORMANCE

### 電氣及機械特性

| 特性 Characteristics                  | 規格值 Standards   | 試驗方法 Test Methods   |
|-------------------------------------|---|---|
| 阻值容許誤差 Resistance Tolerance         | $\pm 5\%$ (J) or $\pm 1\%$ (F)  | -   |
| 溫度係數 Resistance Temp. Coeff.        | <10 $\Omega$ : $\pm 400\text{ppm}/^\circ\text{C}$<br>10 $\Omega$ ~1M $\Omega$ : $\pm 100\text{ppm}/^\circ\text{C}$<br>>1M $\Omega$ : $\pm 200\text{ppm}/^\circ\text{C}$ | -55 $^\circ\text{C}$ ~ 155 $^\circ\text{C}$                 |
| 額定負載 Power Rating Load              | Surface temp 155 $^\circ\text{C}$ Max.<br>最高表面溫度 155 $^\circ\text{C}$ , $\Delta R/R \leq \pm 1\%$   | Rated voltage for 30 minutes<br>額定電壓 / 30分鐘                 |
| 短時間過負載 Short Time Overload          | $\pm 1\%$   | 2.5 times of rated voltage for 5 seconds.<br>2.5 倍額定電壓 / 5秒 |
| 耐電壓 Dielectric Withstanding Voltage | No evidence of mechanical damage or insulation breakdown.<br>無機械性能損壞及絕緣擊穿現象   | Max. Overload Voltage for 1 min.<br>施加最高過負載電壓 1 分鐘          |
| 絕緣電阻 Insulation Resistance          | 1,000M $\Omega$   | DC 100V megger  |
| 焊錫性 Solder-ability                  | Minimum 95% coverage<br>焊錫面積 $\geq 95\%$  | 245 $\pm 5^\circ\text{C}$ for 2 seconds                     |
| 浸錫耐熱性 Resistance to Soldering Heat  | No evidence of mechanical damage.<br>無機械性能損壞現象, $\Delta R/R \leq \pm 1\%$   | 270 $\pm 5^\circ\text{C}$ for 10 $\pm 1$ seconds            |

## ENVIRONMENTAL CHARACTERISTICS

### 耐環境特性

| 特性 Characteristics            | 規格值 Standards               | 試驗方法 Test Methods  |
|-------------------------------|-----------------------------|--|
| 溫度週率 Temp. Cycle              | $\Delta R/R \leq \pm 0.5\%$ | -55 $^\circ\text{C}$ ( 30 min.) $\rightarrow$ Room Temp.( 3 min.)<br>$\rightarrow$ +155 $^\circ\text{C}$ ( 30 min.)<br>$\rightarrow$ Room Temp.( 3 min.) / ( 5 cycles) |
| 負載壽命 Load Life                | $\Delta R/R \leq \pm 1\%$   | Rated power load 90 minutes ON<br>30 minutes OFF<br>70 $^\circ\text{C}$ 1000 hours   |
| 耐濕壽命 Moisture-proof Load Life | $\Delta R/R \leq \pm 1\%$   | Rated power load 90 minutes ON<br>30 minutes OFF<br>40 $^\circ\text{C}$ 95% RH 500 hours   |

※ 參考規格 Reference Standards  
IEC 60115-8  
JIS C 5201-8

## Dimensions

### 尺寸



Unit : mm

| CODE       | Rated Wattage | Dimension(mm) |          |         |          |           | Max. Working Voltage | Resistance Range(Ω) |
|------------|---------------|---------------|----------|---------|----------|-----------|----------------------|---------------------|
|            |               | L ± 0.2       | W ± 0.2  | C ± 0.2 | d ± 0.2  | t ± 0.1   |                      |                     |
| 0402(1005) | 1/16W         | 1.0±0.1       | 0.5±0.05 | 0.2±0.1 | 0.25±0.1 | 0.35±0.05 | 50V                  | 1~10M               |
| 0603(1608) | 1/10W         | 1.6           | 0.8      | 0.3     | 0.3      | 0.45      | 50V                  | 1~10M               |
| 0805(2012) | 1/8W          | 2.0           | 1.25     | 0.4     | 0.4      | 0.5       | 150V                 | 1~10M               |
| 1206(3216) | 1/4W          | 3.2           | 1.6      | 0.5     | 0.5      | 0.6       | 200V                 | 1~10M               |
| 2010(5025) | 1/2W          | 5.0           | 2.5      | 0.6     | 0.5      | 0.6       | 200V                 | 1~10M               |
| 2512(6332) | 1W            | 6.3           | 3.2      | 0.6     | 0.5      | 0.6       | 200V                 | 1~10M               |

- Note:** 1. Max. Overload Voltage is 2 times of Max. Working Voltage  
 2. Zero ohm is also supplied ( 50 mΩ Max.)  
 3. Too low or too high ohmic values can be supplied only case by case.

Rate Continuous Working Voltage ( RCWV ) shall be determined  
 $\sqrt{\text{Rated Power} \times \text{Resistance Value}}$  or Max. Working Voltage listed above,  
 whichever less.

## Derating Curve

### 電力輕減曲線

For resistors operated in ambient temperatures above 70°C, power rating must be derated in accordance with the curve below.



## Surface Temperature Rise

### 表面溫度上昇曲線



## How to order

### 訂貨方式

It is composed by Type, Code Number, Nominal Resistance, Tolerance, Terminal Surface Material. e.g.

RMC   0603   1K   5%   N  
 a.        b.        c.        d.        e.

- a. : Type(種類): Thick Film Chip Resistors are called "RMC".
- b. : Code Number(代號): There are 0402, 0603, 0805, 1206, 2010, 2512.
- c. : Nominal Resistance(公稱電阻值) : 1K.
- d. : Tolerance(容許誤差): ±5% .
- e. : Terminal Surface Material(端電極表面材質) : N (RoHS Compliant)

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