

THICK FILM CHIP RESISTOR 厚膜晶片電阻器

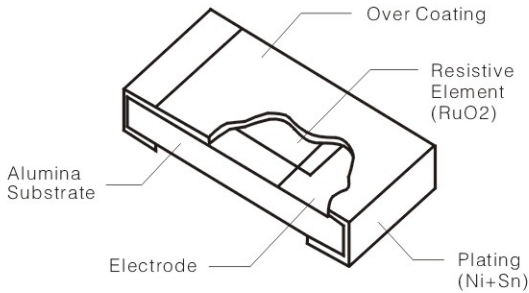
RCT

0201
0402
0603
0805
1206
1210
1218
1812
2010
2512

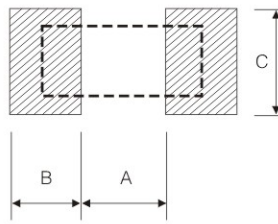


- PACKING 包裝 : TAPE ON REEL 卷帶裝
- TOLERANCE 誤差 : $\pm 1\%$, $\pm 5\%$
- RESISTANCE VALUE RANGE 阻值範圍 : 1 OHM – 100 MEG OHM

CONSTRUCTION 結構



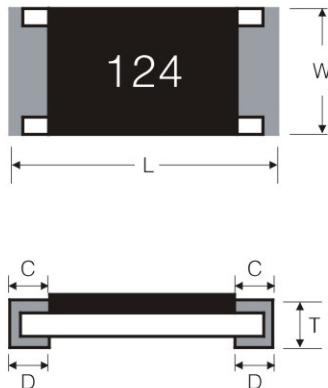
RECOMMENDED LAND PATTERN



Unit: mm

| TYPE 型號 | A | B | C |
|---------|------|------|------|
| RCT01 | 0.30 | 0.25 | 0.30 |
| RCT02 | 0.50 | 0.45 | 0.60 |
| RCT03 | 0.90 | 0.60 | 0.90 |
| RCT05 | 1.20 | 0.70 | 1.30 |
| RCT06 | 2.00 | 0.90 | 1.60 |
| RCT10 | 2.00 | 0.90 | 2.80 |
| RCT20 | 3.80 | 0.90 | 2.80 |
| RCT25 | 3.80 | 1.60 | 3.50 |

DIMENSIONS 尺寸



| SIZE 尺寸 | L | W | T | C | D |
|---------|-------------|-------------|-------------|-------------|-------------|
| 0201 | 0.60 ± 0.03 | 0.30 ± 0.03 | 0.23 ± 0.03 | 0.15 ± 0.05 | 0.15 ± 0.05 |
| 0402 | 1.00 ± 0.10 | 0.50 ± 0.05 | 0.35 ± 0.05 | 0.20 ± 0.10 | 0.25 ± 0.15 |
| 0603 | 1.60 ± 0.10 | 0.80 ± 0.10 | 0.45 ± 0.10 | 0.25 ± 0.15 | 0.30 ± 0.20 |
| 0805 | 2.00 ± 0.10 | 1.25 ± 0.10 | 0.50 ± 0.10 | 0.35 ± 0.20 | 0.30 ± 0.20 |
| 1206 | 3.10 ± 0.10 | 1.60 ± 0.10 | 0.55 ± 0.10 | 0.45 ± 0.20 | 0.40 ± 0.25 |
| 1210 | 3.10 ± 0.10 | 2.50 ± 0.10 | 0.55 ± 0.10 | 0.45 ± 0.25 | 0.45 ± 0.25 |
| 1218 | 3.00 ± 0.10 | 4.60 ± 0.10 | 0.55 ± 0.15 | 0.45 ± 0.25 | 0.45 ± 0.25 |
| 1812 | 4.60 ± 0.10 | 3.00 ± 0.10 | 0.55 ± 0.10 | 0.55 ± 0.25 | 0.50 ± 0.25 |
| 2010 | 5.00 ± 0.20 | 2.50 ± 0.15 | 0.55 ± 0.10 | 0.60 ± 0.25 | 0.50 ± 0.25 |
| 2512 | 6.35 ± 0.20 | 3.10 ± 0.15 | 0.55 ± 0.10 | 0.60 ± 0.25 | 0.60 ± 0.25 |

SPECIFICATIONS 規格

| TYPE 型號 | RCT01 | RCT02 | RCT03 | RCT05 | RCT06 | RCT10 | RCT12 | RCT18 | RCT20 | RCT25 |
|---------------------------------------|--------------|-------------|-------|-------|-------------|-------|-------|-------|-------|-------|
| SIZE 尺寸 | 0201 | 0402 | 0603 | 0805 | 1206 | 1210 | 1218 | 1812 | 2010 | 2512 |
| POWER RATING AT 70°C 額定功率 | 1/20W | 1/16W | 1/10W | 1/8W | 1/4W | 1/3W | 1W | 1/2W | 1/2W | 1W |
| MAX RCWV 最高使用電壓 | 15V | 50V | 50V | 150V | 200V | 200V | 200V | 200V | 200V | 200V |
| MAX OVERLOAD VOLTAGE 最高負荷電壓 | 30V | 100V | 100V | 300V | 400V | 400V | 400V | 400V | 400V | 400V |
| JUMPER < 50mΩ 最高使用電流 | 0.5A | 1A | 1A | 1A | 2A | 2A | 2A | 2A | 2A | 2A |
| OPERATING TEMPERATURE RANGE 使用溫度範圍 | -55 ~ +125°C | | | | | | | | | |
| STANDARD VALUE RANGE 阻值範圍 | 0Ω | 0 ~ 50mΩ | | | | | | | | |
| | ±1% (E-96) | 10Ω ~ 2.2MΩ | | | 10Ω ~ 2.2MΩ | | | | | |
| | ±5% (E-24) | 1Ω ~ 3.3MΩ | | | 1Ω ~ 22MΩ | | | | | |

Remarks : Non-standard resistance values, high precision tolerances and low TCR items are available upon request.
不常規阻值、高精度誤差和低TCR產品亦可提供。

ELECTRICAL CHARACTERISTICS 電器特性

ALL MEASUREMENTS ARE TAKEN AT 25°C AT 1KHZ AND 65% RELATIVE HUMIDITY, UNLESS OTHERWISE STATED
所有測試必須在環境溫度25°C及濕度65%的條件下進行

| PERFORMANCE TEST 性能測試 | 1% | 5% | TEST METHOD 測試方法 |
|--------------------------------------|-----------------|----------------|--|
| TEMPERATURE CYCLING 高低温試驗 | ± (0.5%+0.05 Ω) | ± (1%+0.05 Ω) | MIL-STD-202F, Method 107 Cycle between -55°C and +125°C for 5 cycles |
| SHORT TIME OVERLOAD 短時間過負荷 | ± (1%+0.05 Ω) | ± (2%+0.1 Ω) | MIL-R-55342D, Para 4.7.5 Apply rated voltage 2.5 times for 5 seconds |
| RESISTANCE TO SOLDERING HEAT 耐焊性 | ± (1%+0.05 Ω) | ± (1%+0.05 Ω) | JIS C 5202 6.4 / IEC 60115-14.18 Unmounted chip with a solder bath, 270°C ± 5°C, 10 ± 1 sec |
| LOADING LIFE IN MOISTURE 恒溫恒濕壽命試驗 | ± (0.5%+0.05 Ω) | ± (2%+0.05 Ω) | MIL-STD-202F, Method 106E 40°C, 1000hrs at RCWV, 1.5hrs on, 0.5hr off |
| LOAD LIFE 耐久性 | ± (1%+0.05 Ω) | ± (3%+0.1 Ω) | MIL-STD-202F, Method 108A 70°C, 100hrs at RCWV, 1.5hrs on, 0.5hr off |
| SOLDERABILITY 焊錫性 | Coverage ≥ 95% | Coverage ≥ 95% | JIS C 5202 6.5 / IEC 60115-14.17 Termination Sn base (lead free); Unmounted chip completely immersed in a lead free solder bath, 245°C ± 5°C, 3 ± 1 sec |
| BENDING STRENGTH 彎曲強度 | ± (1%+0.05 Ω) | ± (1%+0.05 Ω) | JIS C 5202 6.1.4 / IEC 60115-14.33 Resistors mounted on a 90mm glass epoxy resin PCB (FR4), bending once 3mm for 10sec, 5mm for WR04, WR02 Pulling test: > 500 grams |

Marking 阻值表示



1.1. ± 5% (IECE - 24 Series) 0603, 0805, 1206 and bigger sizes (0402 no marking) are with 3-digit marking.
± 5% (IECE-24系列) 0603、0805、1206及以上規格(0402無字碼)均用三字碼表示。

e.g. 6R8=6.8Ω; 100=10×10⁰=10Ω; 472=47×10²=4700Ω=4.7KΩ

1.2. ± 1%.

a. 0805, 1206 and bigger sizes are with 4-digit marking.

0805、1206及以上規格阻值均用四字碼表示。

e.g. 82R5=82.5Ω; 1000=100×10⁰=100Ω; 2212=221×10²=22100Ω=22.1KΩ。

b. 0603±1% (IECE - 96 Series) are with 3-digit marking. The first 2 digits are the value code; the final character denotes the multiplier of 10n.

0603±1% (IECE-96系列)阻值均採用三字碼表示。前兩位為阻值的數字代碼；後一位為英文大寫字母，表示倍率(10n次幂)。

E-96 Series - Value marking codes are as below table:

E-96系列阻值的數字代碼如下表：

| Value 阻值 | Code 代碼 | Value 阻值 | Code 代碼 | Value 阻值 | Code 代碼 | Value 阻值 | Code 代碼 | Value 阻值 | Code 代碼 | Value 阻值 | Code 代碼 | Value 阻值 | Code 代碼 | Value 阻值 | Code 代碼 |
|-------------|------------|-------------|------------|-------------|------------|-------------|------------|-------------|------------|-------------|------------|-------------|------------|-------------|------------|
| 100 | 01 | 133 | 13 | 178 | 25 | 237 | 37 | 316 | 49 | 422 | 61 | 562 | 73 | 750 | 85 |
| 102 | 02 | 137 | 14 | 182 | 26 | 243 | 38 | 324 | 50 | 432 | 62 | 576 | 74 | 768 | 86 |
| 105 | 03 | 140 | 15 | 187 | 27 | 249 | 39 | 332 | 51 | 442 | 63 | 590 | 75 | 787 | 87 |
| 107 | 04 | 143 | 16 | 191 | 28 | 255 | 40 | 340 | 52 | 453 | 64 | 604 | 76 | 806 | 88 |
| 110 | 05 | 147 | 17 | 196 | 29 | 261 | 41 | 348 | 53 | 464 | 65 | 619 | 77 | 825 | 89 |
| 113 | 06 | 150 | 18 | 200 | 30 | 267 | 42 | 357 | 54 | 475 | 66 | 634 | 78 | 845 | 90 |
| 115 | 07 | 154 | 19 | 205 | 31 | 274 | 43 | 365 | 55 | 487 | 67 | 649 | 79 | 866 | 91 |
| 118 | 08 | 158 | 20 | 210 | 32 | 280 | 44 | 374 | 56 | 499 | 68 | 665 | 80 | 887 | 92 |
| 121 | 09 | 162 | 21 | 215 | 33 | 287 | 45 | 383 | 57 | 511 | 69 | 681 | 81 | 909 | 93 |
| 124 | 10 | 165 | 22 | 221 | 34 | 294 | 46 | 392 | 58 | 523 | 70 | 698 | 82 | 931 | 94 |
| 127 | 11 | 169 | 23 | 226 | 35 | 301 | 47 | 402 | 59 | 536 | 71 | 715 | 83 | 953 | 95 |
| 130 | 12 | 174 | 24 | 232 | 36 | 309 | 48 | 412 | 60 | 549 | 72 | 732 | 84 | 976 | 96 |

倍率字母代碼如下表：

| Code | A | B | C | D | E | F | G | X | Y | Z |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|------------------|------------------|------------------|
| Multiplier | 10 ⁰ | 10 ¹ | 10 ² | 10 ³ | 10 ⁴ | 10 ⁶ | 10 ⁶ | 10 ⁻¹ | 10 ⁻² | 10 ⁻³ |

For example 例如：01Y=100×10⁻²=1Ω; 68A=499×10⁰=499Ω; 02D=102×10³=102KΩ

Markings of +/- 1% and +/- 5% tolerance are the same in the E-24 Series (but not in the E-96 Series), product label shows the tolerance.

E-24系列阻值容差為+/-1%，且不在E-96系列中，則字碼表示與E-24系列+/-5%字碼相同，僅用標籤注明容差。

For example 例如：120=12×10⁰=12Ω; 475=47×10⁵=4.7MΩ。

1.3. "0" denotes 0 Ohm value resistors.

"0"歐姆晶片電阻字碼均用一個"0"表示。



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