

FEATURES

- High Voltage Ratings
- Smaller Package Sizes
- Low Cost
- Wraparound Terminals

SPECIFICATIONS

Preferred Number Series for Resistors:

- ±1%, 2%: E96, E24
- ±5%, 10%: E24

Material

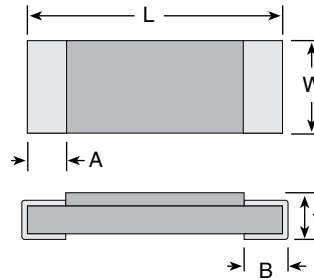
Substrate: Alumina
Resistor: Thick Film
Coating: glass overcoat
Terminal: 100% nickel barrier inner layer with 100% matte tin outer layer

Electrical

Tolerance: 1-10%
Derating: Linearly from 100% at 70°C to 0% at 125°C
Isolation Voltage: 500V (ex. MMC06: 100V)
Oper. Temp. Range: -55°~+125°

Mini Macro Chip Series

High Voltage Thick Film SMD Chip

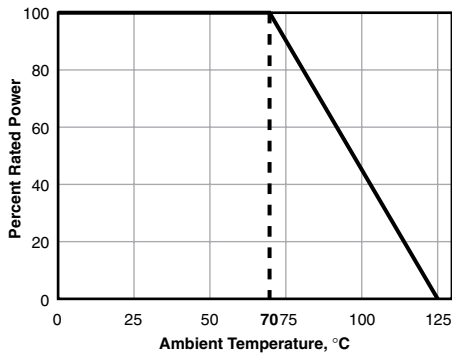


| Series (Size in./met.) | Resistance Range | TCR 10 ⁻⁶ /°C | Power Rating (W) @70°C | Voltage Rating* | Isolation Voltage | Dimensions (in./mm) | | | | | Qty./Reel |
|------------------------|----------------------|--------------------------|------------------------|-----------------|-------------------|---------------------|-------------|-------------|-------------|-------------|-----------|
| | | | | | | L | W | t | A | B | |
| MMC06 (0603/1608) | 470Ω~10MΩ | ±100 | 0.1 | 200 | 100 | 0.063 ±.004 | 0.031 ±.006 | 0.018 ±.004 | 0.012 ±.004 | 0.012 ±.004 | 5000 |
| | 47Ω~464Ω | ±200 | | | | 1.6 ±0.1 | 0.8 ±0.15 | 0.45 ±0.1 | 0.3 ±0.1 | 0.3 ±0.1 | |
| MMC08 (0805/2012) | 100Ω~10MΩ ±1% & ±2% | ±100 | 0.125 | 300 | 500 | 0.079 ±.004 | 0.049 ±.004 | 0.022 ±.004 | 0.016 ±.008 | 0.016 ±.008 | 5000 |
| | 100Ω~51MΩ ±5% & ±10% | ±200 | | | | 2.0 ±0.1 | 1.25 ±0.10 | 0.55 ±0.1 | 0.4 ±0.2 | 0.4 ±0.2 | |
| MMC12 (1206/3216) | 100Ω~10MΩ ±1% & ±2% | ±100 | 0.25 | 400 | 500 | 0.126 ±.004 | 0.063 ±.006 | 0.022 ±.004 | 0.020 ±.01 | 0.020 ±.01 | 5000 |
| | 100Ω~51MΩ ±5% & ±10% | ±200 | | | | 3.2 ±0.1 | 1.6 ±0.15 | 0.55 ±0.1 | 0.5 ±0.25 | 0.5 ±0.25 | |
| MMC25 (2512/6332) | 560Ω~20MΩ ±1% & ±2% | ±100 | 1.0 | 800 | 500 | 0.248 ±.004 | 0.126 ±.006 | 0.022 ±.004 | 0.024 ±.008 | 0.024 ±.008 | 4000 |
| | 560Ω~51MΩ ±5% & ±10% | ±200 | | | | 6.3 ±0.1 | 3.2 ±0.15 | 0.55 ±0.1 | 0.6 ±0.2 | 0.6 ±0.2 | |
| | 100Ω~549Ω | ±200 | | | | | | | | | |
| | 47Ω~97.6Ω | ±500~-200 | | | | | | | | | |

*Use Ohm's Law ($V = \sqrt{P \cdot R}$) to calculate maximum working voltage.

Note: Limiting Element Voltage can only be applied to resistors when the resistance is equal to or higher than the critical resistance value.

DERATING



ORDERING INFORMATION

RoHS Compliant

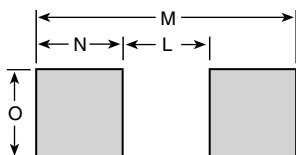
MMC12J4704ETP

| | | | | |
|-------------|----------------|--|--|------------------|
| Type | Wattage | Tolerance | Resistance | Packaging |
| 06 = 0.1 | F = 1% | First 3 digits are significant; 4th digit is multiplier (# of zeroes to follow). | TP = Paper tape (use on MMC06, MMC08, MMC12) | |
| 08 = 0.125 | G = 2% | Examples: | TR = Embossed tape (use on MMC25) | |
| 12 = 0.25 | J = 5% | 4704 = 4,700,000 | | |
| 25 = 1.0 | K = 10% | 1214 = 1,210,000 | | |
| | | Use E96 values for 1% | | |
| | | Use E24 values for 5% | | |

Note: Units are marked with 3-digit (E24 Series) or 4-digit (E96 Series). 4-digit marking not available on MMC06 sizes.

LAND PATTERN (in.)

Land pattern dimensions are for reference only



| Size | M | N | O | L |
|-------|-------|-------|-------|-------|
| MMC06 | 0.075 | 0.024 | 0.041 | 0.027 |
| MMC08 | 0.095 | 0.032 | 0.069 | 0.031 |
| MMC12 | 0.146 | 0.040 | 0.080 | 0.066 |
| MMC25 | 0.272 | 0.048 | 0.150 | 0.176 |