

RMC Series

General Purpose Thick Film Chip Resistors

Stackpole Electronics, Inc.
Resistive Product Solutions

- Features:
- Nickel Barrier terminations standard
 - Power derating from 100% at 70°C to zero at +155°C
 - Zero ohm available (max resistance 0.05Ω)
 - RoHS compliant / lead-free available (RMCF)



| Electrical Specifications | | | | | | | | |
|---------------------------|--------------|-----------------------------|---------------------------|--------------------------|-----------------|--|---|---|
| Type / Code | Package Type | Power Rating (Watts) @ 70°C | Maximum Working Voltage ① | Maximum Overload Voltage | Maximum Current | Resistance Temperature Coefficient | Ohmic Range and Tolerance② | |
| | | | | | | | 1% | 5% |
| RMC 1/20 | 0201 | 0.050W | 25V | 50V | 1 Amp | ± 600 ppm/°C ± 300 ppm/°C | 1Ω - 24.9Ω 25Ω - 10MΩ | 1Ω - 24.9Ω 25Ω - 10MΩ |
| RMC 1/16S | 0402 | 0.063W | 50V | 100V | 1 Amp | ± 500 ppm/°C ± 200 ppm/°C | 1Ω - 9.76Ω 10Ω - 1MΩ | 1Ω - 9.1Ω 10Ω - 20MΩ |
| RMC 1/16 | 0603 | 0.100W | 50V | 100V | 1 Amp | ± 600 ppm/°C ± 200 ppm/°C ± 100 ppm/°C ± 200 ppm/°C | 0.05Ω - 0.499Ω 0.5Ω - 32.4Ω 33.2Ω - 1MΩ 1.1MΩ - 10MΩ | 0.05Ω - 0.499Ω 0.5Ω - 20MΩ - - |
| RMC 1/10 | 0805 | 0.125W | 150V | 300V | 2 Amp | ± 500 ppm/°C ± 200 ppm/°C ± 100 ppm/°C ± 200 ppm/°C | 0.1Ω - 0.976Ω 1Ω - 32.4Ω 33.2Ω - 1MΩ 1.1MΩ - 10MΩ | 0.1Ω - 0.910Ω 1Ω - 20MΩ - - |
| RMC 1/8 | 1206 | 0.250W | 200V | 400V | 2 Amp | ± 500 ppm/°C ± 200 ppm/°C ± 100 ppm/°C ± 200 ppm/°C | 0.1Ω - 0.976Ω 1Ω - 32.4Ω 33.2Ω - 1MΩ 1.1MΩ - 10MΩ | 0.1Ω - 0.910Ω 1Ω - 20MΩ - - |
| RMC 1/4 | 1210 | 0.330W③ | 200V | 400V | 3 Amp | ± 400 ppm/°C ± 200 ppm/°C ± 100 ppm/°C ± 200 ppm/°C | 0.1Ω - 9.76Ω 10Ω - 32.4Ω 33.2Ω - 1MΩ 1.1MΩ - 10MΩ | 0.1Ω - 9.1Ω - - 10Ω - 20MΩ |
| RMC 1/2 | 2010 | 0.750W③ | 200V | 400V | 3 Amp | ± 500 ppm/°C ± 400 ppm/°C ± 200 ppm/°C ± 100 ppm/°C | 0.1Ω - 0.499Ω 0.5Ω - 9.76Ω - 10Ω - 10MΩ | 0.1Ω - 0.499Ω 0.5Ω - 9.1Ω 10Ω - 10MΩ - |
| RMC 1 | 2512 | 1.000W | 200V | 400V | 3 Amp | ± 500 ppm/°C ± 400 ppm/°C ± 200 ppm/°C ± 100 ppm/°C | 0.1Ω - 0.499Ω 0.5Ω - 9.76Ω - 10Ω - 10MΩ | 0.1Ω - 0.499Ω 0.5Ω - 9.1Ω 10Ω - 10MΩ - |

① Lesser of \sqrt{PR} or maximum working voltage.

② Contact factory for extended ohmic values.

③ Power rating is 0.500W for ohmic values below 1Ω

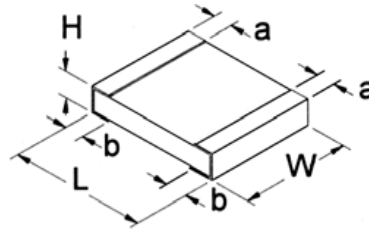
How to Order

| SEI Type | | Code | | | Nominal Resistance | Tolerance | | Packaging | | | |
|----------|-------------|-------|---------|------|--------------------|-----------|---------|-----------------|---------|------------------------------|------|
| RMC | | 1/16 | | | 4.7K | 5% | | R | | | |
| Type | Description | Code | Wattage | Size | Tolerance | | Values | SEI Types | Pkg Qty | Description | Code |
| RMC | Standard | 1/20 | 0.050W | 0201 | 1% | | E96,E24 | 1/20 | 15,000 | 7" reel - Paper or Embossed | R |
| RMCF | RoHS | 1/16S | 0.063W | 0402 | 5% | | E24 | 1/16S | 10,000 | 10" reel - Paper or Embossed | G |
| | | 1/16 | 0.100W | 0603 | | | | 1/16, 1/10, 1/8 | 10,000 | 10" reel - Paper or Embossed | G |
| | | 1/10 | 0.125W | 0805 | | | | | 5,000 | 7" reel - Paper or Embossed | R |
| | | 1/8 | 0.250W | 1206 | | | | | 1,000 | Bulk | A |
| | | 1/4 | 0.330W | 1210 | | | | | 4,000 | 7" - Embossed | R |
| | | 1/2 | 0.750W | 2010 | | | | | | | |
| | | 1 | 1.000W | 2512 | | | | | | | |

Rev Date: 12/07/2009

This specification may be changed at any time without prior notice
Please confirm technical specifications before you order and/or use.

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| Mechanical Specifications | | | | | | |
|---------------------------|------------------------------|--|------------------------------|------------------------------|------------------------------|--------------|
| Type / Code | L Body Length | W Body Width | H Body Height | a Top Termination | b Bottom Termination | Units |
| RMC 1/20 | 0.024 ± 0.001 0.60 ± 0.03 | 0.011 ± 0.001 0.30 ± 0.03 | 0.009 ± 0.001 0.23 ± 0.03 | 0.005 ± 0.01 0.12 ± 0.3 | 0.006 ± 0.002 0.15 ± 0.05 | inches mm |
| RMC 1/16S | 0.039 ± 0.004 1.00 ± 0.10 | 0.020 ± 0.002 0.50 ± 0.05 | 0.011 ± 0.004 0.30 ± 0.10 | 0.008 ± 0.004 0.20 ± 0.10 | 0.010 ± 0.004 0.25 ± 0.10 | inches mm |
| RMC 1/16 | 0.061 ± 0.006 1.55 ± 0.15 | 0.031 + 0.006 / - 0.004 0.80 + 0.15 / -0.10 | 0.018 ± 0.004 0.45 ± 0.10 | 0.012 ± 0.008 0.30 ± 0.20 | 0.012 ± 0.008 0.30 ± 0.20 | inches mm |
| RMC 1/10 | 0.079 ± 0.008 2.00 ± 0.20 | 0.049 ± 0.004 1.25 ± 0.10 | 0.020 ± 0.006 0.50 ± 0.15 | 0.014 ± 0.010 0.35 ± 0.25 | 0.014 ± 0.010 0.35 ± 0.25 | inches mm |
| RMC 1/8 | 0.126 ± 0.008 3.20 ± 0.20 | 0.063 ± 0.006 1.60 ± 0.15 | 0.021 ± 0.006 0.55 ± 0.15 | 0.020 ± 0.010 0.50 ± 0.25 | 0.020 ± 0.010 0.50 ± 0.25 | inches mm |
| RMC 1/4 | 0.126 ± 0.010 3.20 ± 0.25 | 0.098 ± 0.008 2.50 ± 0.20 | 0.021 ± 0.006 0.55 ± 0.15 | 0.020 ± 0.010 0.50 ± 0.25 | 0.020 ± 0.010 0.50 ± 0.25 | inches mm |
| RMC 1/2 | 0.197 ± 0.008 5.00 ± 0.20 | 0.098 ± 0.008 2.5 ± 0.20 | 0.021 ± 0.006 0.55 ± 0.15 | 0.024 ± 0.010 0.60 ± 0.25 | 0.024 ± 0.010 0.60 ± 0.25 | inches mm |
| RMC 1 | 0.248 ± 0.008 6.30 ± 0.20 | 0.126 ± 0.008 3.20 ± 0.20 | 0.021 ± 0.006 0.55 ± 0.15 | 0.024 ± 0.012 0.60 ± 0.30 | 0.024 ± 0.012 0.60 ± 0.30 | inches mm |

Note: Lead free (RMCF) dimensions same as standard parts

| Performance Characteristics | | |
|---------------------------------|---|----------------------------------|
| Test | Test Conditions (JIS C 5202) | Test Results |
| Short Time Overload | 2.5x rated voltage for 5 seconds | ± (2% + 0.1Ω) |
| Dielectric Withstanding Voltage | 100 VAC, 1 minute | ± (1% + 0.05Ω) |
| Resistance to Soldering Heat | 260°C ±5°C, for 10 sec. ±0.5 sec. (Solder Bath) | ± (1% + 0.05Ω) |
| Solderability | 235°C ±5°C, for 2 sec. ±0.5 sec. (Colophonium flux) | 95% coverage, minimum |
| Temperature Cycle | -65°C: 30 min. 25°C: 2 to 3 min. 155°C: 30 min. 25°C: 2 to 3 min. (5 Cycles) | ±(1% + 0.05Ω) Jumper (<0.05Ω) |
| Endurance (Damp load) | 40°C ± 2°C, 90% RH, Rated Load 90 min. On, 30 min. Off for 1,000 hrs. -0hrs./+48hrs. | ±(3% + 0.1Ω) Jumper (<0.05Ω) |
| Endurance (Rated load) | 70°C ± 2°C, Rated Load 90 min. On, 30 min. Off for 1,000 hrs. -0hrs./+48hrs. | ±(3% + 0.1Ω) Jumper (<0.05Ω) |
| Voltage Coefficient | 1/10 rated voltage for 3 sec. max. then rated voltage for 3 sec. max. | ±100 (ppm/V) |
| Robustness of Termination | Bend of 3mm for 5 ± 1 sec. | ± (1% + 0.05 Ohm) |

Operating Temperature Range: -65°C to +125°C (0201 size)
-65°C to +155°C (all others)