

# RMCF/RMCP Series

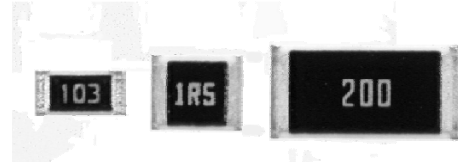
General Purpose Thick Film Standard Power  
and High Power Chip Resistor

Stackpole Electronics, Inc.

Resistive Product Solutions

**Features:**

- RMCF – standard power ratings
- RMCP – high power ratings
- Nickel Barrier terminations standard
- Power derating from 100% at 70°C to zero at +155°C
- RoHS compliant



Electrical Specifications								
Type / Code	Old Type Code	Power Rating (Watts) @ 70°C	Maximum Working Voltage (1)	Maximum Overload Voltage	Maximum Current	Resistance Temperature Coefficient	Ohmic Range (Ω) and Tolerance (2)	
							1%	5%
RMCF0201	1/20	0.05W	25V	50V	1 Amp	± 400 ppm/°C ± 200 ppm/°C	1 - 9.76 10 - 10M	1 - 9.1 10 - 10M
RMCF0402	1/16S	0.063W	50V	100V	1 Amp	± 300 ppm/°C ± 200 ppm/°C ± 100 ppm/°C ± 200 ppm/°C	0.2 - 0.59 0.604 - 9.76 10 - 1M 1.02M - 10M	0.2 - 0.56 0.62 - 9.1 10 - 1M 1.1M - 10M
RMCP0402	1/16S	0.1W	50V	100V	1 Amp	± 200 ppm/°C ± 100 ppm/°C ± 200 ppm/°C	1 - 9.76 10 - 1M 1.02M - 10M	1 - 9.76 10 - 1M 1.02M - 10M
RMCF0603	1/16	0.1W	50V	100V	1 Amp	± 600 ppm/°C ± 200 ppm/°C ± 100 ppm/°C ± 200 ppm/°C	0.1 - 0.976 1 - 9.76 10 - 1M 1.02M - 10M	0.1 - 0.91 1 - 26M - -
RMCP0603	1/16	0.125W	50V	100V	1 Amp	± 200 ppm/°C ± 100 ppm/°C ± 200 ppm/°C	1 - 9.76 10 - 1M 1.02M - 10M	1 - 9.76 10 - 1M 1.02M - 10M
RMCF0805	1/10	0.125W	150V	300V	2 Amp	± 200 ppm/°C ± 100 ppm/°C ± 200 ppm/°C	0.1 - 9.76 10 - 1M 1.02M - 22.1M	0.1 - 26M - -
RMCP0805	1/10	0.25W	150V	300V	2 Amp	± 200 ppm/°C ± 100 ppm/°C ± 200 ppm/°C	1 - 9.76 10 - 1M 1.02M - 10M	1 - 9.76 10 - 1M 1.02M - 10M
RMCF1206	1/8	0.25W	200V	400V	2 Amp	± 200 ppm/°C ± 100 ppm/°C ± 200 ppm/°C	0.1 - 9.76 10 - 1M 1.02M - 10M	0.1 - 26M - -
RMCP1206	1/8	0.33W	200V	400V	2 Amp	± 200 ppm/°C ± 100 ppm/°C ± 200 ppm/°C	1 - 9.76 10 - 1M 1.02M - 10M	1 - 9.76 10 - 1M 1.02M - 10M
RMCF1210	1/4	0.33W(3)	200V	400V	3 Amp	± 200 ppm/°C ± 400 ppm/°C ± 200 ppm/°C ± 100 ppm/°C	0.1 - 0.976 1 - 9.76 - 10 - 10M	0.1 - 0.91 1 - 9.1 10 - 20M -
RMCP1210	1/4	0.5W	200V	400V	3 Amp	± 200 ppm/°C ± 100 ppm/°C ± 200 ppm/°C	1 - 9.76 10 - 1M 1.02M - 10M	1 - 9.76 10 - 1M 1.02M - 10M
RMCF2010	1/2	0.75W(3)	200V	400V	3 Amp	± 200 ppm/°C ± 400 ppm/°C ± 200 ppm/°C ± 100 ppm/°C	0.1 - 0.976 1 - 9.76 - 10 - 10M	0.1 - 0.91 1 - 9.1 10 - 10M -
RMCP2010	1/2	1W	200V	400V	3 Amp	± 200 ppm/°C ± 100 ppm/°C ± 200 ppm/°C	1 - 9.76 10 - 1M 1.02M - 10M	1 - 9.76 10 - 1M 1.02M - 10M
RMCF2512	1	1W	200V	400V	3 Amp	± 200 ppm/°C ± 400 ppm/°C ± 200 ppm/°C ± 100 ppm/°C	0.1 - 0.976 1 - 9.76 - 10 - 10M	0.1 - 0.91 1 - 9.1 10 - 10M -
RMCP2512	1	2W	200V	400V	3 Amp	± 200 ppm/°C ± 100 ppm/°C ± 200 ppm/°C	1 - 9.76 10 - 1M 1.02M - 10M	1 - 9.76 10 - 1M 1.02M - 10M

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

(2) Contact factory for extended ohmic values.

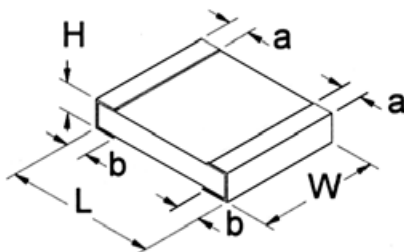
(3) Power rating is 0.500W for ohmic values below 1Ω

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## Mechanical Specifications

Type / Code	L Body Length	W Body Width	H Body Height	a Top Termination	b Bottom Termination	Unit
RMCF0201	0.024 ± 0.001 0.60 ± 0.03	0.012 ± 0.001 0.30 ± 0.03	0.009 ± 0.0004 0.23 ± 0.01	0.006 ± 0.002 0.15 ± 0.05	0.006 ± 0.002 0.15 ± 0.05	inches mm
RMCF0402 RMCP0402	0.039 ± 0.004 1.00 ± 0.10	0.020 ± 0.002 0.50 ± 0.05	0.012 ± 0.004 0.30 ± 0.10	0.008 ± 0.004 0.20 ± 0.10	0.010 ± 0.006 0.25 ± 0.15	inches mm
RMCF0603 RMCP0603	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
RMCF0805 RMCP0805	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
RMCF1206 RMCP1206	0.126 ± 0.010 3.20 ± 0.25	0.063 ± 0.006 1.60 ± 0.15	0.022 ± 0.006 0.55 ± 0.15	0.020 ± 0.012 0.50 ± 0.30	0.020 ± 0.012 0.50 ± 0.30	inches mm
RMCF1210 RMCP1210	0.126 ± 0.010 3.20 ± 0.25	0.098 ± 0.010 2.50 ± 0.25	0.022 ± 0.006 0.55 ± 0.15	0.020 ± 0.012 0.50 ± 0.30	0.020 ± 0.012 0.50 ± 0.30	inches mm
RMCF2010 RMCP2010	0.197 ± 0.008 5.00 ± 0.20	0.098 ± 0.008 2.50 ± 0.20	0.022 ± 0.006 0.55 ± 0.15	0.024 ± 0.012 0.60 ± 0.30	0.024 ± 0.014 0.60 ± 0.35	inches mm
RMCF2512 RMCP2512	0.248 ± 0.008 6.30 ± 0.20	0.126 ± 0.010 3.20 ± 0.25	0.022 ± 0.006 0.55 ± 0.15	0.024 ± 0.012 0.60 ± 0.30	0.024 ± 0.014 0.60 ± 0.35	inches mm

## 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%
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: -55°C to +125°C (0201 size)  
-55°C to +155°C (all others)

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## How to Order - RMCF

1	2	3	4	5	6	7	8	9	10	11	12	13	14
R	M	C	F	0	6	0	3	J	T	4	K	7	0

Product Series		Size	Power	Tolerance			Packaging				Resistance Value
RMCF	Thick Film Chip Resistors	0201	0.05W	Code	Tol	Value	T	7" Reel - Paper Tape	0201, 0402	10,000	Four characters with the multiplier used as the decimal holder. 0.1 ohm = R100 4.70 ohm = 4R70 10.0 Kohm = 10K0 1 Mohm = 1M00 Zero ohm jumper = 0R00
		0402	0.063W	F	1%	E96, E24			0603, 0805, 1206	5,000	
		0603	0.1W	J	5%	E24	7" Reel - Plastic Tape	1210, 2010, 2512	4,000		
		0805	0.125W	Z	jumper						
		1206	0.25W				10" Reel - Paper Tape	0603, 0805, 1206	10,000		
		1210	0.33W								
		2010	0.75W				Bulk	0603, 0805, 1206	1,000		
		2512	1W								

## How to Order - RMCP

1	2	3	4	5	6	7	8	9	10	11	12	13	14
R	M	C	P	0	6	0	3	J	T	4	K	7	0

Product Series		Size	Power Rating	Tolerance			Packaging				Resistance Value
RMCP	High Power	0402	0.1W	Code	Tol	Value	T	7" Reel Paper Tape	0402	10,000	Four characters with the multiplier used as the decimal holder. 1 ohm = 1R00 10 Kohm = 10K0 1 Mohm = 1M00
		0603	0.125W	F	1%	E96, E24			0603, 0805	5,000	
		0805	0.25W	J	5%	E24	10" Reel Paper Tape	1206, 1210	4,000		
		1206	0.33W					0603, 0805	10,000		
		1210	0.5W				1206, 1210				
		2010	1W								
		2512	2W								

Legacy Part Number (before January 3, 2011):

SEI Type		Code			Nominal Resistance	Tolerance		Packaging			
<b>RMCF</b>		<b>1/16</b>			<b>4.7K</b>	<b>5%</b>		<b>R</b>			
Type	Description	Code	Wattage	Size		Tolerance	Values	SEI Types	Pkg Qty	Description	Code
RMC	Standard	1/20	0.05W	0201		1%	E96, E24	0201, 0402	10,000	7" reel - paper tape	R
RMCF	RoHS	1/16S	0.063W	0402		5%	E24		10,000	10" reel - paper tape	G
		1/16	0.1W	0603				0603, 0805, 1206	5,000	7" reel - paper tape	R
		1/10	0.125W	0805					1,000	bulk	A
		1/8	0.25W	1206				1210, 2010, 2512	4,000	7" reel - plastic tape	R
		1/4	0.33W	1210							
		1/2	0.75W	2010							
		1	1W	2512							

SEI Type		Code			Nominal Resistance	Tolerance		Packaging			
<b>RMCP</b>		<b>0603</b>			<b>4.7K</b>	<b>5%</b>		<b>R</b>			
Type	Description	Code	Wattage	Size		Tolerance	Values	SEI Types	Pkg Qty	Description	Code
RMCP	High Power	0402	0.1W	0402		1%	E96, E24	0402	10,000	7" reel - paper tape	R
		0603	0.125W	0603		5%	E24	0603, 0805, 1206, 1210	10,000	10" reel - paper tape	G
		0805	0.25W	0805					0603, 0805, 1206, 1210	5,000	7" reel - paper tape
		1206	0.33W	1206							
		1210	0.5W	1210							
		2010	1W	2010							
		2512	2W	2512				2010, 2512	4,000		