

RMCF/RMCP Series

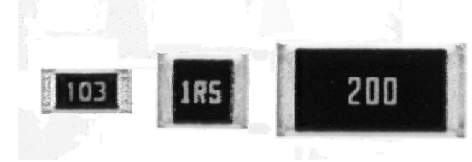
General Purpose Thick Film Standard Power
and High Power Chip Resistor

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.

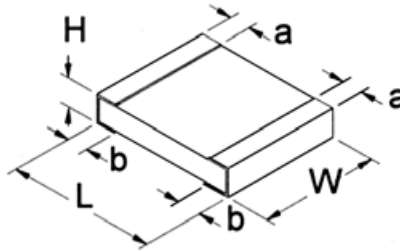
(3) Power rating is 0.500W for ohmic values below 1Ω

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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	Code	Description	Size	Quantity	Four characters with the multiplier used as the decimal holder.		
		0402	0.063W	F	1%	E96, E24	T	7" Reel - Paper Tape	0201, 0402	10,000			
		0603	0.1W	J	5%	E24		7" Reel - Plastic Tape	0603, 0805, 1206	5,000	0.1 ohm = R100 4.70 ohm = 4R70 10.0 Kohm = 10K0 1 Mohm = 1M00 Zero ohm jumper = 0R00		
		0805	0.125W	Z	jumper		G	10" Reel - Paper Tape	1210, 2010, 2512	4,000			
		1206	0.25W				B	Bulk	0603, 0805, 1206	1,000			
		1210	0.33W										
		2010	0.75W										
		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	Code	Description	Size	Quantity	Four characters with the multiplier used as the decimal holder.		
		0603	0.125W	F	1%	E96, E24	T	7" Reel Paper Tape	0402	10,000			
		0805	0.25W	J	5%	E24		7" Reel Paper Tape	0603, 0805 1206, 1210	5,000	1 ohm = 1R00 10 Kohm = 10K0 1 Mohm = 1M00		
		1206	0.33W				G	10" Reel Paper Tape	2010, 2512	4,000			
		1210	0.5W						0603, 0805 1206, 1210	10,000			
		2010	1W										
		2512	2W										

Legacy Part Number (before January 3, 2011):

SEI Type		Code		Nominal Resistance	Tolerance		Packaging			
RMCF		1/16		4.7K	5%		R			
Type	Description	Code	Wattage	Size	Tolerance		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			
RMCP		0603		4.7K	5%		R			
Type	Description	Code	Wattage	Size	Tolerance		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	R
		1206	0.33W	1206						
		1210	0.5W	1210			2010, 2512	4,000		
		2010	1W	2010						
		2512	2W	2512						