Features:

- Small size and light weight
- Reliability and high quality
- “-HP” denotes high power
- “-UP” denotes ultra-high power
- Inner termination engineered to deter sulfur contamination
- RoHS compliant, REACH compliant, and halogen free
- AEC-Q200 qualified



Electrical Specifications - Standard

Type/Code	Power Rating (W) @ 70ºC	Maximum Working Voltage [1] (V)	Maximum Overload Voltage (V)	TCR (ppm/ºC)	Ohmic Range (Ω) and Tolerance			
					0.1%	0.5%	1%	5%
RMCA0201	0.05	25	50	±200	-	100 - 10K	10 - 3M	10 - 10M
				+600/-200	-		1 - 9.76	
RMCA0402	0.063	0.12 - 0.25	0.624	±1000	-		0.22 - 0.45	
				±800			0.475 - 0.976	0.47 - 0.91
		50	100	±400			1 - 9.76	
				±200			10.2M - 29.4M	11M - 30M
				±100	10 - 1M		10 - 10M	
RMCA0603	0.1	0.1 - 0.31	0.775	±1000	-		0.075 - 0.976	
				±800			0.1 - 0.324	0.1 - 0.33
				±600			0.332 - 0.976	0.36 - 0.91
		75	150	±400			1 - 9.76	
				±200			10.2M - 29.4M	11M - 30M
				±100	10 - 1M		10 - 10M	
RMCA0805	0.125	0.04 - 0.35	0.875	±1800	-		0.01 - 0.049	
				±800			0.05 - 0.976	
				±600			0.1 - 0.976	0.1 - 0.91
		150	300	±400			1 - 9.76	
				±200			10.2M - 29.4M	11M - 30M
				±100	10 - 1M		10 - 10M	
RMCA1206	0.25	0.05 - 0.5	1.25	±1800	-		0.01 - 0.049	
				±800			0.05 - 0.976	
				±600			0.1 - 0.976	0.1 - 0.91
		200	400	±400			1 - 9.76	
				±200			10.2M - 29.4M	11M - 30M
				±100	10 - 1M		10 - 10M	
RMCA1210	0.5	0.07 - 0.7	1.75	±1800	-		0.01 - 0.05	0.01 - 0.05
				±800			0.051 - 0.1	0.051 - 0.1
				±600			0.102 - 0.976	0.11 - 0.91
		200	400	±400			1 - 9.76	
				±200			10.2M - 29.4M	11M - 30M
				±100	10 - 1M		10 - 10M	

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Electrical Specifications - Standard (cont.)

Type/Code	Power Rating (W) @ 70ºC	Maximum Working Voltage [1] (V)	Maximum Overload Voltage (V)	TCR (ppm/ºC)	Ohmic Range (Ω) and Tolerance			
					0.1%	0.5%	1%	5%
RMCA2010	0.75	0.08 - 0.8	2.15	±1800	-		0.01 - 0.049	
				±800			0.05 - 0.976	
				±600			0.1 - 0.976	0.1 - 0.91
		200	400	±400			1 - 9.76	
				±200			10.2M - 29.4M	11M - 30M
				±100	10 - 1M		10 - 10M	
RMCA2512	1	0.1 - 0.99	2.475	±1800	-		0.01 - 0.049	
				±800			0.05 - 0.976	
				±600			0.1 - 0.976	0.1 - 0.91
		200	400	±400			1 - 9.76	
				±200			10.2M - 29.4M	11M - 30M
				±100	10 - 1M		10 - 10M	

(1) Lesser of √P*R or maximum working voltage.
Operating Temperature Range: -55 ~ +155°C

Electrical Specifications - High Power

Type/Code	Power Rating (W) @ 70ºC	Maximum Working Voltage [1] (V)	Maximum Overload Voltage (V)	TCR (ppm/ºC)	Ohmic Range (Ω) and Tolerance
					1% and 5%
RMCA0402-HP	0.1	0.15 - 0.31	0.786	±1000	0.22 - 0.45
				±800	0.46 - 0.97
		50	100	±400	1 - 9.76
				±100	10 - 10M
				±200	10.1M - 30M
RMCA0603-HP	0.125	0.1 - 0.35	0.879	±1000	0.075 - 0.097
				±800	0.1 - 0.33
				±600	0.34 - 0.97
		75	150	±400	1 - 9.76
				±100	10 - 10M
				±200	10.1M - 30M
RMCA0805-HP	0.25	0.05 - 0.5	1.244	±1800	0.01 - 0.049
				±800	0.05 - 0.097
				±600	0.1 - 0.97
		150	300	±400	1 - 9.76
				±100	10 - 10M
				±200	10.1M - 30M
RMCA1206-HP	0.5	0.07 - 0.7	1.759	±1800	0.01 - 0.049
				±800	0.05 - 0.097
				±600	0.1 - 0.97
		200	400	±400	1 - 9.76
				±100	10 - 10M
				±200	10.1M - 30M

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Electrical Specifications - High Power (cont.)

Type/Code	Power Rating (W) @ 70°C	Maximum Working Voltage [1] (V)	Maximum Overload Voltage (V)	TCR (ppm/°C)	Ohmic Range (Ω) and Tolerance
					1% and 5%
RMCA1210-HP	0.66	0.07 - 0.7	1.759	±1800	0.01 - 0.049
				±800	0.05 - 0.097
				±600	0.1 - 0.97
		200	400	±400	1 - 9.76
				±100	10 - 10M
				±200	10.1M - 30M
RMCA2010-HP	1	0.1 - 0.99	2.487	±1800	0.01 - 0.049
				±800	0.05 - 0.097
				±600	0.1 - 0.97
		200	400	±400	1 - 9.76
				±100	10 - 10M
				±200	10.1M - 30M
RMCA2512-HP	2	0.14 - 1.41	3.518	±1800	0.01 - 0.049
				±800	0.05 - 0.097
				±600	0.1 - 0.97
		200	400	±400	1 - 9.76
				±100	10 - 10M
				±200	10.1M - 30M

Electrical Specifications - Ultra-High Power

Type/Code	Power Rating (W) @ 70°C	Maximum Working Voltage [1] (V)	Maximum Overload Voltage (V)	TCR (ppm/°C)	Ohmic Range (Ω) and Tolerance	
					0.5%	1% and 5%
RMCA0402-UP	0.2	50	100	±400	-	1 - 9.76
				±100	10 - 1M	10 - 10M
RMCA0603-UP	0.4	350	500	±400	-	1 - 9.76
				±100	10 - 1M	10 - 10M
RMCA0805-UP	0.5	400	800	±400	-	1 - 9.76
				±100	10 - 1M	10 - 10M
RMCA1206-UP	0.75	500	1000	±400	-	1 - 9.76
				±100	10 - 1M	10 - 10M
RMCA1210-UP	1	200	400	±400	-	1 - 9.76
				±100	10 - 1M	10 - 10M
RMCA2010-UP	1.5	200	400	±400	-	1 - 9.76
				±150	10 - 1M	10 - 10M
RMCA2512-UP	3	250	500	±400	-	1 - 9.76
				±150	10 - 1M	10 - 10M

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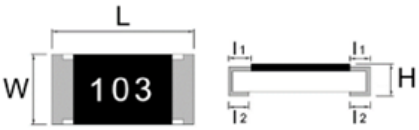
Electrical Specifications - Jumper

Type	0201	0402	0603	0805	1206	1210	1812	2010	2512
Jumper Resistance Value (Ω)	0.05Ω Max								
Jumper Rated Current (A)	0.5	1		2					

Electrical Specifications - High Power Jumper

Type	0402	0603	0805	1206	1210	1812	2010	2512
Jumper Resistance Value (Ω)	0.02Ω Max.							
Jumper Rated Current (A)	2	2.5	3.5	5	6	7	7	10
Max. Overload Current (A) < 1 second and 1 time	6	9	13	16	19	22	22	30

Mechanical Specifications

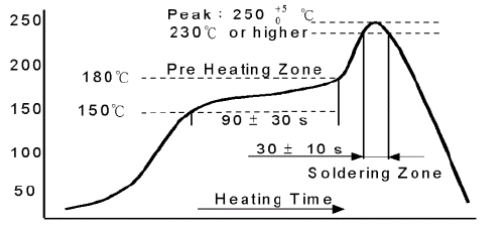


Type/Code	L Body Length	W Body Width	H Body Height	l_1 Top Termination	l_2 Bottom Termination	Unit
RMCA0201	0.024 ± 0.001 0.60 ± 0.03	0.012 ± 0.001 0.30 ± 0.03	0.009 ± 0.001 0.23 ± 0.03	0.004 ± 0.002 0.10 ± 0.05	0.006 ± 0.004 0.15 ± 0.05	inches mm
RMCA0402	0.039 ± 0.004 1.00 ± 0.10	0.020 ± 0.002 0.50 ± 0.05	0.012 ± 0.002 0.30 ± 0.05	0.006 ± 0.004 0.15 ± 0.10	0.008 ± 0.004 0.20 ± 0.10	inches mm
RMCA0603	0.063 ± 0.008 1.60 ± 0.20	0.031 ± 0.006 0.80 ± 0.15	0.016 ± 0.004 0.40 ± 0.10	0.012 ± 0.008 0.30 ± 0.20	0.012 ± 0.004 0.30 ± 0.10	inches mm
RMCA0805	0.079 ± 0.008 2.00 ± 0.20	0.049 ± 0.006 1.25 ± 0.15	0.020 ± 0.006 0.50 ± 0.15	0.012 ± 0.006 0.30 ± 0.15	0.016 ± 0.006 0.40 ± 0.15	inches mm
RMCA1206	0.120 ± 0.004 3.05 ± 0.10	0.063 ± 0.008 1.60 ± 0.20	0.022 ± 0.006 0.55 ± 0.15	0.016 ± 0.008 0.40 ± 0.20	0.020 ± 0.008 0.50 ± 0.20	inches mm
RMCA1210	0.120 ± 0.004 3.05 ± 0.10	0.098 ± 0.008 2.50 ± 0.20	0.022 ± 0.006 0.55 ± 0.15	0.020 ± 0.008 0.50 ± 0.20	0.020 ± 0.008 0.50 ± 0.20	inches mm
RMCA2010	0.197 ± 0.008 5.00 ± 0.20	0.098 ± 0.008 2.50 ± 0.20	0.022 ± 0.004 0.55 ± 0.10	0.024 ± 0.008 0.60 ± 0.20	0.024 ± 0.008 0.60 ± 0.20	inches mm
RMCA2512	0.248 ± 0.008 6.30 ± 0.20	0.126 ± 0.008 3.20 ± 0.20	0.022 ± 0.004 0.55 ± 0.10	0.024 ± 0.008 0.60 ± 0.20	0.024 ± 0.008 0.60 ± 0.20	inches mm
RMCA2512-HP	0.248 ± 0.008 6.30 ± 0.20	0.126 ± 0.008 3.20 ± 0.20	0.026 ± 0.006 0.65 ± 0.15	0.024 ± 0.008 0.60 ± 0.20	0.024 ± 0.008 0.60 ± 0.20	inches mm
RMCA2512-UP	0.248 ± 0.008 6.30 ± 0.20	0.126 ± 0.008 3.20 ± 0.20	0.027 ± 0.006 0.68 ± 0.15	0.024 ± 0.008 0.60 ± 0.20	0.024 ± 0.008 0.60 ± 0.20	inches mm

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Performance Characteristics

Test	Test Method	Test Specification	Test Condition
Temperature Coefficient of Resistance (TCR)	JIS C-5201-1 4.8 IEC-60115-1 4.8	Refer to Electrical Specifications table	At 25ºC/-55ºC and 25ºC/+155ºC, 25ºC is the reference temperature, except for 0201 0201: at 25°C/-55°C and 25°C/+125°C
Short Time Overload	JIS-C-5201-1 4.13 IEC-60115-1 4.13	±1%: ΔR ±(1% + 0.05Ω) ±5%: ΔR ±(2% + 0.1Ω) Value < 1Ω: ΔR ±(2% + 0.1Ω) 0201: ΔR ±(3% + 0.1Ω)	RMCA 2.5 times RCWV or Max. Overload voltage, whichever is less for 5 seconds
			RMCA-HP 2.5 times RCWV or Max. Overload voltage, whichever is less for 2 seconds
			RMCA-UP 5 times Rated Power or Max. Overload voltage, whichever is less for 5 seconds
IR Reflow		±1%: ΔR ±(1% + 0.05Ω) ±5%: ΔR ±(1% + 0.05Ω)	
Leaching	JIS-C-5201-1 4.18 IEC-60068-2-58 8.2.1	Individual leaching area ≤ 5% Total leaching area ≤ 10%	260 ± 5°C for 30 seconds
Temperature Cycling	JIS C-5201-1 clause 4.19	0.1%, 0.5%, 1%: ΔR ±(0.5% + 0.05Ω) 5%: ΔR ±(1% + 0.1Ω) Values < 1Ω: ΔR ± (1% + 0.1Ω)	-55 to +155°C, 5 cycles
Electric Iron		±1%: ΔR ±(1% + 0.05Ω) ±5%: ΔR ±(1% + 0.05Ω) Values < 1Ω: ΔR ±(1% + 0.05Ω)	Preheating temperature: 350 ± 10°C Electric iron preheating time: 3 + 1/-0 seconds
Resistance to Solvent	JIS C-5201-1 clause 4.29	1%: ΔR ±(0.5% + 0.05Ω) 5%: ΔR ±(0.5% + 0.05Ω) Values < 1Ω: ΔR ±(1% + 0.05Ω)	The tested resistor shall be immersed into isopropyl alcohol at 20 ~ 25°C for 60 seconds. Then the resistor is left in the room for 48 hours.
Load Life and Moisture	JIS C-5201-1 clause 4.24	0.1%, 0.5%, 1%: ΔR ±(1% + 0.05Ω) 5%: ΔR ±(2% + 0.05Ω) Values < 1Ω: ΔR ±(2% + 0.05Ω)	40 ± 2°C, 90 ~ 95% R.H. RCWV or Max. Working Voltage, whichever is less for 1000 hours, with 1.5 hours "ON" and 0.5 hour "OFF".
Load Life (Endurance)	JIS C-5201-1 clause 4.25	0.1%, 0.5%, 1%: ΔR ±(1% + 0.05Ω) 5%: ΔR ±(3% + 0.1Ω) Values < 1Ω: ΔR ±(3% + 0.1Ω)	70 ± 2°C, RCWV or Max. Working Voltage, whichever is less for 1000 hours, with 1.5 hours "ON" and 0.5 hour "OFF".
Insulation Resistance	JIS C-5201-1 clause 4.6	≥ 10GΩ	100 V for 1 minute
Terminal Bending Strength	JIS C-5201-1 clause 4.33	±1%: ΔR ±(1% + 0.05Ω) ±5%: ΔR ±(1% + 0.05Ω)	Bending once for 5 seconds D: 0402, 0603, 0805 = 5 mm 1206, 1210 = 3 mm 2010, 2512 = 2 mm
Sulfur Test (FoS)	ATSM B809-95 ANSI/EIZ-977	For standard and high power products: ΔR ±(1% + 0.05Ω)	60 ± 2°C, no power rating for 1000 hours
		For ultra high power products: ΔR ±(1% + 0.05Ω)	105 ± 2°C, no power rating for 1000 hours
		For 0201 0.5% and 1%: ΔR ±(1% + 0.05Ω)	105 ± 2°C, no power rating for 360 hours

Operating temperature range is -55 to +155ºC

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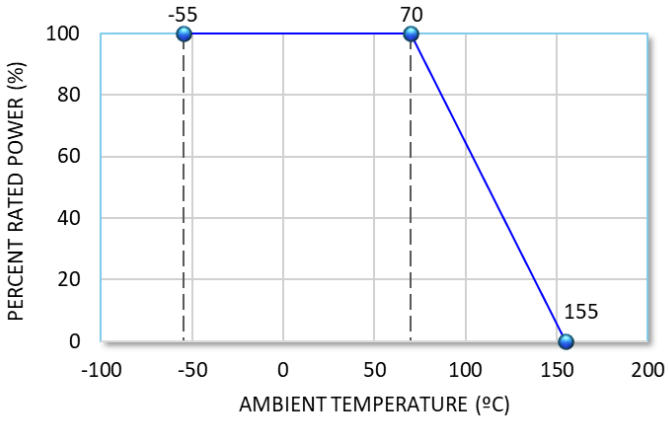
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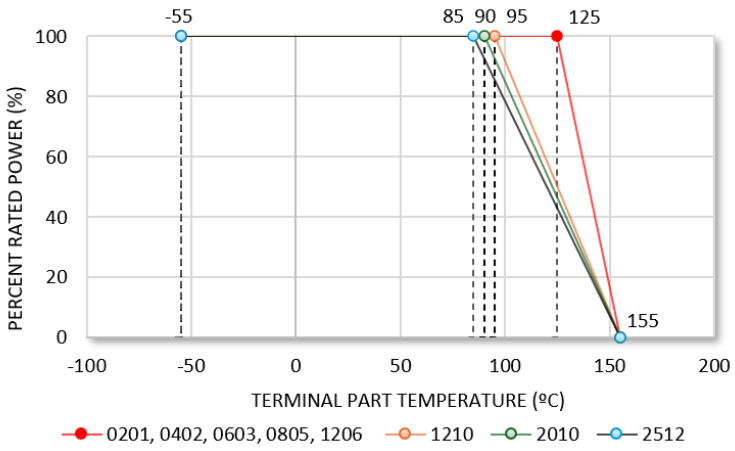
AEC-Q200 Test			
Test	Test Method	Test Specification	Test Condition
Temperature Cycling	JESD22 Method JA-104	0.1%, 0.5%, 1%: ΔR ±(0.5% + 0.05Ω) 5%: ΔR ±(1% + 0.1Ω)	1000 cycles (-55 to +125°C) 'Measurement at 24 ± 4 hours after test conclusion. 30 min. maximum dwell time at each temperature extreme. 1 min. maximum transition time.
Resistance to Solvent	MIL-STD-202 Method 215	1%: ΔR ±(0.5% + 0.05Ω) 5%: ΔR ±(0.5% + 0.05Ω)	Add aqueous wash chemical - OKEM clean or equivalent a: Isopropyl Alcohol: Mineral Spirits = 1:3 b. Terpene Defluxer (Bioact EC-7R) c. Deionized water: Propylene Glycol Monomethyl Ether: monoethanolamide = 42:1:1
Biased Humidity	MIL-STD-202 Method 103	0.1%, 0.5%, 1%: ΔR ±(1% + 0.05Ω) 5%: ΔR ±(3% + 0.05Ω)	1000 hours 85°C/85% R.H. 10% of operation power. Measurement at 24 ± 4 hours after test conclusion
High Temperature Exposure (Storage)	MIL-STD-202 Method 108	0.1%, 0.5%, 1%: ΔR ±(0.5% + 0.05Ω) 5%: ΔR ±(2% + 0.05Ω)	1000 hours. T=155ºC Unpowered. 0201: 1000 hours. T=125ºC Unpowered. Measurement at 24 ± 2 hours after test conclusion
Operational Life	MIL-STD-202 Method 108	0.1%, 0.5%, 1%: ΔR ±(1% + 0.05Ω) 5%: ΔR ±(3% + 0.1Ω) 0201: ΔR ±(5% + 0.1 Ω)	Condition D steady state TA = 125ºC at derated power. 0201: 1000 hours TA = 125°C at 35% rated power. Measurement at 24 ± 4 hours after test conclusion.
External Visual	MIL-STD-883 Method 2009	-	Electrical test not required. Inspect device construction, marking and workmanship.
Physical Dimension	AEC-Q200 REV D Test 10 JESD22 Method JB-	-	Verify physical dimensions to the applicable device detail specification. Note: User(s) and suppliers spec. Electrical test not required
Mechanical Shock	MIL-STD-202 Method 213	±1%: ΔR ±(1% + 0.05Ω) ±5%: ΔR ±(2% + 0.1Ω	Wave Form: Tolerance for half sine shock pulse. Peak value is 100 g. Normal duration is 6(ms)
Vibration	MIL-STD-202 Method 204	±1%: ΔR ±(1% + 0.05Ω) ±5%: ΔR ±(2% + 0.1Ω)	5 g for 20 minutes 12 cycles each of 3 orientations. Note: Test from 10-2000 hours
Resistance to Soldering Heat	JIS-C-5201-1 4.18 IEC-60068-2-58 8.2.1	±1%: ΔR ±(0.5% + 0.05Ω) ±5%: ΔR ±(1% + 0.05Ω) Value < 1Ω: ΔR ±(1% + 0.05Ω) 0201: ΔR ±(2% + 0.1Ω)	260 ± 5°C for 10 seconds
ESD	AEC-Q200-002 or ISO/DIS 10605	ΔR ±(3% + 0.05Ω)	Human body model 0201: 500 V 0402/0603: 1 KV 0805 and above: 2 KV
Solderability	J-STD-002	>95% Coverage No visual damage	Method B, aging 4 hours at 155°C dry heat. Lead-free solder bath at 235 ± 3°C. Dipping time: 3 ± 0.5 seconds
Flammability	AEC-Q200 REV D Test 20 UL-94	V-0 or V-1	V-0 or V-1 are acceptable. Electrical test not required.
Terminal Strength (SMD)	AEC Q200-006	No breakage	Pressurizing force for 60 seconds 0402 / 0603: 8 N 0805 and above: 17.7 N
Board Flex	AEC Q200-005	ΔR ±(1% + 0.05Ω)	Bending once for 60 seconds. 2010, 2512 sizes: 2 mm; other sizes: 3 mm

RCWV: Rated continuous working voltage

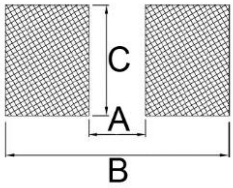
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Power Derating Curve:





Recommended Solder Pad



Type/Code	A	B	C	Unit
RMCA0201	0.012 0.30	0.035 0.90	0.016 0.40	inches mm
RMCA0402	0.024 0.60	0.063 1.60	0.028 0.70	inches mm
RMCA0603	0.031 0.80	0.094 2.40	0.039 1.00	inches mm
RMCA0805	0.051 1.30	0.114 2.90	0.055 1.40	inches mm
RMCA1206	0.087 2.20	0.165 4.20	0.067 1.70	inches mm
RMCA1210	0.079 2.00	0.173 4.40	0.106 2.70	inches mm
RMCA2010	0.150 3.80	0.260 6.60	0.106 2.70	inches mm
RMCA2512	0.193 4.90	0.319 8.10	0.134 3.40	inches mm

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Recommended Solder Profile

This information is intended as a reference for solder profiles for Stackpole resistive components. These profiles should be compatible with most soldering processes. These are only recommendations. Actual numbers will depend on board density, geometry, packages used, etc., especially those cells labeled with "*".

100% Matte Tin / RoHS Compliant Terminations

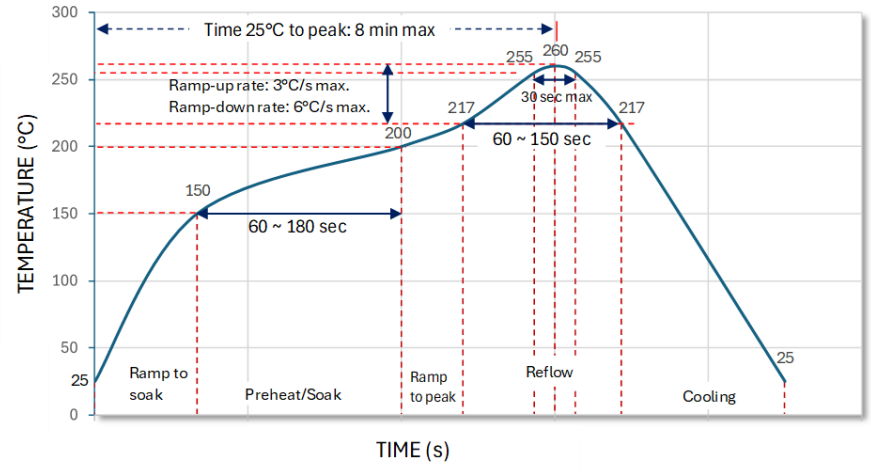
Soldering iron recommended temperatures: 330 to 350°C with minimum duration.
Maximum number of reflow cycles: 3.

Wave Soldering			
Description	Maximum	Recommended	Minimum
Preheat Time	80 seconds	70 seconds	60 seconds
Temperature Diff.	140°C	120°C	100°C
Solder Temp.	260°C	250°C	240°C
Dwell Time at Max.	10 seconds	5 seconds	*
Ramp DN (°C/sec)	N/A	N/A	N/A

Temperature Diff. = Difference between final preheat stage and soldering stage.

Convection IR Reflow			
Description	Maximum	Recommended	Minimum
Ramp Up (°C/sec)	3°C/sec	2°C/sec	*
Dwell Time > 217°C	150 seconds	90 seconds	60 seconds
Solder Temp.	260°C	245°C	*
Dwell Time at Max.	30 seconds	15 seconds	10 seconds
Ramp DN (°C/sec)	6°C/sec	3°C/sec	*

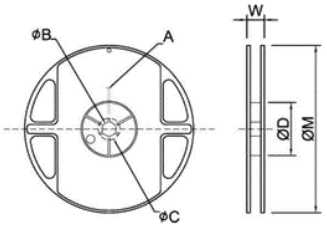
Recommended Resistor Reflow Profile



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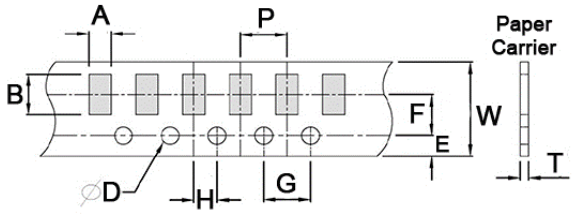
Packaging (EIA Standard RS-481)

Reel Specifications



Size	Size		A	B	C	D	W	M	Unit
0201	7"	10 K	0.079 ± 0.020 2.00 ± 0.50	0.512 ± 0.039 13.00 ± 1.00	0.827 ± 0.039 21.00 ± 1.00	2.362 ± 0.039 60.00 ± 1.00	0.453 ± 0.079 11.50 ± 2.00	7.008 ± 0.079 178.00 ± 2.00	inches mm
0402	7"	10 K	0.079 ± 0.020 2.00 ± 0.50	0.531 ± 0.039 13.50 ± 1.00	0.827 ± 0.039 21.00 ± 1.00	2.362 ± 0.039 60.00 ± 1.00	0.453 ± 0.079 11.50 ± 2.00	7.008 ± 0.079 178.00 ± 2.00	inches mm
0603, 0805 1206, 1210	7"	5 K	0.079 ± 0.020 2.00 ± 0.50	0.531 ± 0.039 13.50 ± 1.00	0.827 ± 0.039 21.00 ± 1.00	2.362 ± 0.039 60.00 ± 1.00	0.453 ± 0.079 11.50 ± 2.00	7.008 ± 0.079 178.00 ± 2.00	inches mm
2010 and 2512	7"	4 K	0.079 ± 0.020 2.00 ± 0.50	0.531 ± 0.039 13.50 ± 1.00	0.827 ± 0.039 21.00 ± 1.00	2.362 ± 0.039 60.00 ± 1.00	0.630 ± 0.079 16.00 ± 2.00	7.008 ± 0.079 178.00 ± 2.00	inches mm

Taping Specifications - Paper Tape



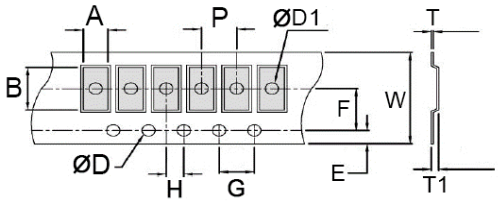
Size	A	B	W	E	F	Unit
RMCA0201	0.015 ± 0.002 0.37 ± 0.05	0.026 ± 0.004 0.67 ± 0.10	0.315 ± 0.008 8.00 ± 0.20	0.069 ± 0.004 1.75 ± 0.10	0.138 ± 0.002 3.50 ± 0.05	inches mm
RMCA0402	0.028 ± 0.004 0.70 ± 0.10	0.047 ± 0.004 1.20 ± 0.10	0.315 ± 0.008 8.00 ± 0.20	0.069 ± 0.004 1.75 ± 0.10	0.138 ± 0.002 3.50 ± 0.05	inches mm
RMCA0603	0.041 ± 0.008 1.05 ± 0.20	0.071 ± 0.008 1.80 ± 0.20	0.315 ± 0.008 8.00 ± 0.20	0.069 ± 0.004 1.75 ± 0.10	0.138 ± 0.002 3.50 ± 0.05	inches mm
RMCA0805	0.061 ± 0.008 1.55 ± 0.20	0.091 ± 0.008 2.30 ± 0.20	0.315 ± 0.008 8.00 ± 0.20	0.069 ± 0.004 1.75 ± 0.10	0.138 ± 0.002 3.50 ± 0.05	inches mm
RMCA1206	0.075 ± 0.008 1.90 ± 0.20	0.138 ± 0.008 3.50 ± 0.20	0.315 ± 0.008 8.00 ± 0.20	0.069 ± 0.004 1.75 ± 0.10	0.138 ± 0.002 3.50 ± 0.05	inches mm
RMCA1210	0.112 ± 0.008 2.85 ± 0.20	0.138 ± 0.008 3.50 ± 0.20	0.315 ± 0.008 8.00 ± 0.20	0.069 ± 0.004 1.75 ± 0.10	0.138 ± 0.002 3.50 ± 0.05	inches mm

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Taping Specifications - Paper Tape (cont.)

Size	G	H	T	D	P	Unit
RMCA0201	0.157 ± 0.004 4.00 ± 0.10	0.079 ± 0.002 2.00 ± 0.05	0.015 ± 0.004 0.37 ± 0.10	0.059 +0.004/-0 1.50 +0.1/-0	0.079 ± 0.002 2.00 ± 0.05	inches mm
RMCA0402	0.157 ± 0.004 4.00 ± 0.10	0.079 ± 0.002 2.00 ± 0.05	0.018 ± 0.004 0.45 ± 0.10	0.059 +0.004/-0 1.50 +0.1/-0	0.079 ± 0.004 2.00 ± 0.10	inches mm
RMCA0603	0.157 ± 0.004 4.00 ± 0.10	0.079 ± 0.002 2.00 ± 0.05	0.024 ± 0.004 0.60 ± 0.10	0.059 +0.004/-0 1.50 +0.1/-0	0.157 ± 0.004 4.00 ± 0.10	inches mm
RMCA0805	0.157 ± 0.004 4.00 ± 0.10	0.079 ± 0.002 2.00 ± 0.05	0.030 ± 0.004 0.75 ± 0.10	0.059 +0.004/-0 1.50 +0.1/-0	0.157 ± 0.004 4.00 ± 0.10	inches mm
RMCA1206	0.157 ± 0.004 4.00 ± 0.10	0.079 ± 0.002 2.00 ± 0.05	0.030 ± 0.004 0.75 ± 0.10	0.059 +0.004/-0 1.50 +0.1/-0	0.157 ± 0.004 4.00 ± 0.10	inches mm
RMCA1210	0.157 ± 0.004 4.00 ± 0.10	0.079 ± 0.002 2.00 ± 0.05	0.030 ± 0.004 0.75 ± 0.10	0.059 +0.004/-0 1.50 +0.1/-0	0.157 ± 0.004 4.00 ± 0.10	inches mm

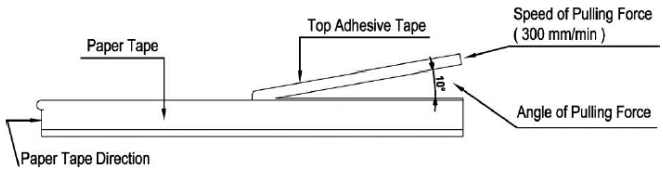
Taping Specifications - Plastic Tape



Size	A	B	W	E	F	G	Unit
RMCA2010	0.110 ± 0.008 2.80 ± 0.20	0.220 ± 0.008 5.60 ± 0.20	0.472 ± 0.004 12.00 ± 0.10	0.069 ± 0.004 1.75 ± 0.10	0.217 ± 0.002 5.50 ± 0.05	0.157 ± 0.004 4.00 ± 0.10	inches mm
RMCA2512 (-HP and -UP)	0.134 ± 0.008 3.40 ± 0.20	0.264 ± 0.008 6.70 ± 0.20	0.472 ± 0.004 12.00 ± 0.10	0.069 ± 0.004 1.75 ± 0.10	0.217 ± 0.002 5.50 ± 0.05	0.157 ± 0.004 4.00 ± 0.10	inches mm

Size	H	T	D	D1	T1	P	Unit
RMCA2010	0.079 ± 0.002 2.00 ± 0.05	0.009 ± 0.004 0.23 ± 0.10	0.059 +0.004/-0 1.50 +0.10/-0	0.059 ± 0.004 1.50 ± 0.10	0.033 ± 0.006 0.85 ± 0.15	0.157 ± 0.004 4.00 ± 0.10	inches mm
RMCA2512	0.079 ± 0.002 2.00 ± 0.05	0.009 ± 0.004 0.23 ± 0.10	0.059 +0.004/-0 1.50 +0.10/-0	0.059 ± 0.004 1.50 ± 0.10	0.033 ± 0.006 0.85 ± 0.15	0.157 ± 0.004 4.00 ± 0.10	inches mm
RMCA2512-HP RMCA2512-UP	0.079 ± 0.002 2.00 ± 0.05	0.009 ± 0.004 0.23 ± 0.10	0.059 +0.004/-0 1.50 +0.10/-0	0.059 ± 0.004 1.50 ± 0.10	0.037 ± 0.006 0.95 ± 0.15	0.157 ± 0.004 4.00 ± 0.10	inches mm

Peel-Off Strength Specifications



Top Adhesive Peel-off Strength: 10 g ~ 70 g.

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Part Marking Specifications

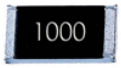
Sizes 0805-2512, 0.1%, 0.5% and 1% tolerances (E96 and E24 Values)

The nominal resistance is marked on the surface of the overcoating with the use of **four character markings**.

1. Values <100Ω will use "R" as the decimal holder.



1.21Ω

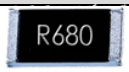


100Ω

Sizes 0805-2512, 5% tolerance, ≤ 0.91Ω (E24 Values)

The nominal resistance is marked on the surface of the overcoating with the use of **four character markings.**

1. Values ≤ 0.91Ω will use "R" as the decimal holder.

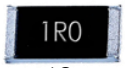


0.68Ω

Sizes 0805-2512, 5% tolerance, ≥ 1Ω (E24 Values)

The nominal resistance is marked on the surface of the overcoating with the use of **three character markings**.

1. Values between 1Ω and 9.1Ω will use "R" as the decimal holder.



1Ω

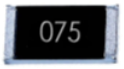


1.2 KΩ

Size 0603 (E24 Values)

The nominal resistance is marked on the surface of the overcoating with the use of **three character markings**.

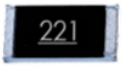
1. Values between 0.075Ω and 0.091Ω will use no decimal holder.
2. Values between 0.1Ω and 9.1Ω will use "R" as the decimal holder.
3. Values ≥10Ω will use no decimal holder.
4. 5% tolerance is not underlined. 1% tolerance is underlined.
(Effective date for 1% underline marking is date codes on/or after April 1, 2025.
5. Values that are both E24 and E96 follow E96 marking rules.



0.075Ω 5%



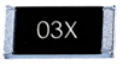
0.68Ω 5%



220Ω 1%

Size 0603 (E96 Values)

A two character number is assigned to each standard R-Value (E96) as shown in the chart below. This is followed by one alpha character which is used as a multiplier. Each letter from "Y" - "F" represents a specific multiplier.



10.5Ω

Alpha Character = Multiplier	
Y = 0.1	C = 1000
X = 1	D = 10000
A = 10	E = 100000
B = 100	F = 1000000

Chip Marking	Value
01B =	10.0 x 100 = 1 KΩ
25C =	17.8 x 1000 = 17.8 KΩ
93D =	90.9 x10000 = 909 KΩ

E96

#	R-Value	#	R-Value	#	R-Value	#	R-Value	#	R-Value	#	R-Value
01	10.0	**17**	14.7	**33**	21.5	**49**	31.6	**65**	46.4	**81**	68.1
02	10.2	**18**	15.0	**34**	22.1	**50**	32.4	**66**	47.5	**82**	69.8
03	10.5	**19**	15.4	**35**	22.6	**51**	33.2	**67**	48.7	**83**	71.5
04	10.7	**20**	15.8	**36**	23.2	**52**	34.0	**68**	49.9	**84**	73.2
05	11.0	**21**	16.2	**37**	23.7	**53**	34.8	**69**	51.1	**85**	75.0
06	11.3	**22**	16.5	**38**	24.3	**54**	35.7	**70**	52.3	**86**	76.8
07	11.5	**23**	16.9	**39**	24.9	**55**	36.5	**71**	53.6	**87**	78.7
08	11.8	**24**	17.4	**40**	25.5	**56**	37.4	**72**	54.9	**88**	80.6
09	12.1	**25**	17.8	**41**	26.1	**57**	38.3	**73**	56.2	**89**	82.5
10	12.4	**26**	18.2	**42**	26.7	**58**	39.2	**74**	57.6	**90**	84.5
11	12.7	**27**	18.7	**43**	27.4	**59**	40.2	**75**	59.0	**91**	86.6
12	13.0	**28**	19.1	**44**	28.0	**60**	41.2	**76**	60.4	**92**	88.7
13	13.3	**29**	19.6	**45**	28.7	**61**	42.2	**77**	61.9	**93**	90.9
14	13.7	**30**	20.0	**46**	29.4	**62**	43.2	**78**	63.4	**94**	93.1
15	14.0	**31**	20.5	**47**	30.1	**63**	44.2	**79**	64.9	**95**	95.3
16	14.3	**32**	21.0	**48**	30.9	**64**	45.3	**80**	66.5	**96**	97.6

Note: 0201 and 0402 sizes are unmarked.

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RoHS Compliance

Stackpole Electronics has joined the worldwide effort to reduce the amount of lead in electronic components and to meet the various regulatory requirements now prevalent, such as the European Union's directive regarding "Restrictions on Hazardous Substances" (RoHS 3). As part of this ongoing program, we periodically update this document with the status regarding the availability of our compliant components. All our standard part numbers are compliant to EU Directive 2011/65/EU of the European Parliament as amended by Directive (EU) 2015/863/EU as regards the list of restricted substances.

RoHS Compliance Status

Standard Product Series	Description	Package / Termination Type	Standard Series RoHS Compliant	Lead-Free Termination Composition
RMCA	Automotive Grade Anti-Sulfur and AEC Qualified Thick Film Chip Resistor	SMD	YES(1)	100% Matte Sn over Ni

Note (1): RoHS compliant by means of exemption 7c-I.

"Conflict Metals" Commitment

We at Stackpole Electronics, Inc. are joined with our industry in opposing the use of metals mined in the "conflict region" of the eastern Democratic Republic of the Congo (DRC) in our products. Recognizing that the supply chain for metals used in the electronics industry is very complex, we work closely with our own suppliers to verify to the extent possible that the materials and products we supply do not contain metals sourced from this conflict region. As such, we are in compliance with the requirements of Dodd-Frank Act regarding Conflict Minerals.

Compliance to "REACH"

We certify that all passive components supplied by Stackpole Electronics, Inc. are SVHC (Substances of Very High Concern) free and compliant with the requirements of EU Directive 1907/2006/EC, "The Registration, Evaluation, Authorization and Restriction of Chemicals", otherwise referred to as REACH. Contact us for complete list of REACH Substance Candidate List.

Environmental Policy

It is the policy of Stackpole Electronics, Inc. (SEI) to protect the environment in all localities in which we operate. We continually strive to improve our effect on the environment. We observe all applicable laws and regulations regarding the protection of our environment and all requests related to the environment to which we have agreed. We are committed to the prevention of all forms of pollution.

How to Order

R	M	C	A	0	4	0	2	F	T	1	R	0	0	-	H	P

Product Series

Code	Description
RMCA	Automotive Grade Thick Film Chip Resistors

Size and Wattage

Code	Std W	-HP W	-UP W
0201	0.05	-	-
0402	0.063	0.1	0.2
0603	0.1	0.125	0.4
0805	0.125	0.25	0.5
1206	0.25	0.5	0.75
1210	0.5	0.66	1
2010	0.75	1	1.5
2512	1	2	3

Tolerance

Code	Tol
B	0.1%
D	0.5%
F	1%
J	5%
Z	Jumper

Packaging

Code	Description	Size	Quantity
T	7" Reel Paper Tape	0201, 0402	10000
		0603, 0805 1206, 1210	5000
	7" Reel Plastic Tape	2010, 2512	4000

Resistance Value

Four characters with the multiplier used as the decimal holder. "L" used as multiplier of 10^{-3} for any value under 0.1 ohm.

0.010 ohm = 10L0
3.9 ohm = 3R90
10 Kohm = 10K0
1.1 Mohm = 1M10
Zero ohm jumper = 0R00

Special

Code	Description
blank	Standard
-HP	High Power
-UP	Ultra-High Power

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