

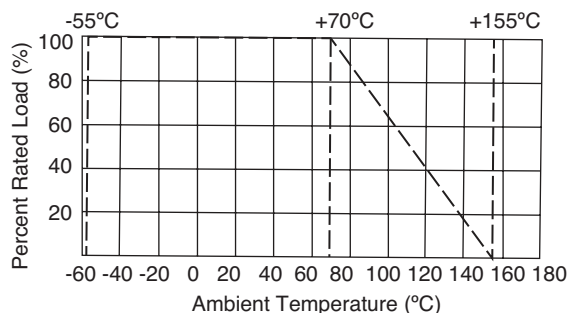


5% Thick Film Chip Resistors (RoHS Compliant) RMC5-RC Series

FEATURES

- Case Size: 2512
- Temperature Range: -55°C ~ +155°C (derated over 70°C)
- Power Rating: 1W
- Max. Working Voltage: 200V
- Max Overload Voltage: 500V

DERATING CURVE



LEAD-FREE

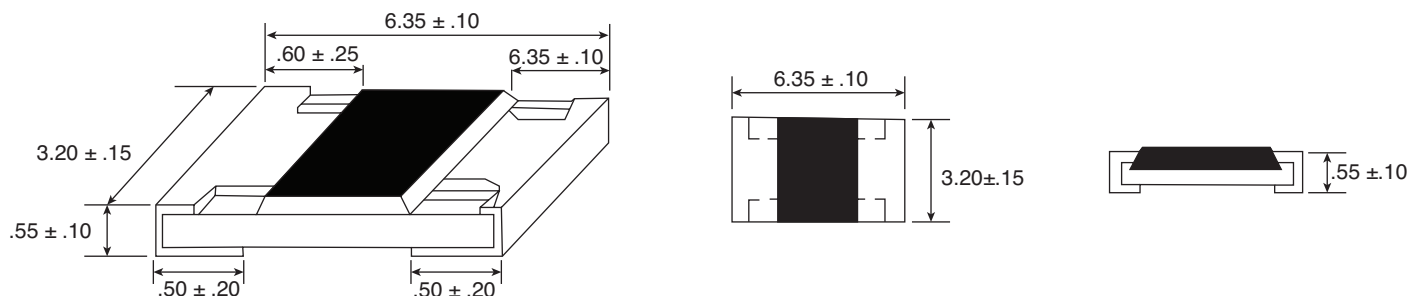


RoHS Compliant

PART NUMBERING SYSTEM



DIMENSIONS (mm)

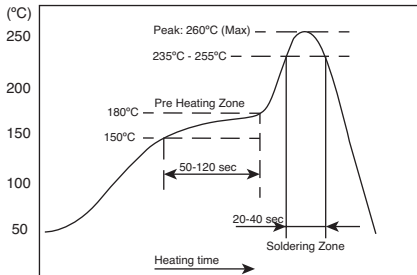


STANDARD VALUES (Ω)

0.0	2.0	4.7	11	24	51	110	510	1.1K	2.4K	5.1K	12K	30K	68K	200K	470K
1.0	2.2	5.1	12	27	56	120	560	1.2K	2.7K	5.6K	15K	33K	75K	220K	510K
1.1	2.4	5.6	13	30	62	130	620	1.3K	3.0K	6.2K	16K	36K	82K	240K	560K
1.2	2.7	6.2	15	33	68	150	680	1.5K	3.3K	6.8K	18K	39K	100K	270K	680K
1.3	3.3	6.8	16	36	75	160	750	1.6K	3.6K	7.5K	20K	43K	120K	300K	1.0M
1.5	3.6	7.5	18	39	82	180	820	1.8K	3.9K	8.2K	22K	47K	130K	330K	2.0M
1.6	3.9	8.2	20	43	91	200	910	2.0K	4.3K	9.1K	24K	51K	150K	360K	2.2M
1.8	4.3	10	22	47	100	220	1.0K	2.2K	4.7K	10K	27K	56K	180K	390K	2.4M

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■ CHARACTERISTICS

Characteristics	Limits	Test Methods (JIS C 5201-1)
*Insulation Resistance	1,000MΩ or more	Apply 500V DC between protective coating and termination for 1 min, then measure (Sub-clause 4.6)
*Dielectric withstanding voltage	No evidence of flashover mechanical damage, arcing or insulation break down	Apply 500V DC between protective coating and termination for 1 min (Sub-clause 4.7)
Temperature coefficient	1Ω-10Ω: ±400 PPM/°C 11Ω-100Ω: ±200 PPM/°C 101Ω-10Ω: ±100 PPM/°C	Natural resistance change per temp. degree centigrade. $\frac{R2-R1}{R1(t2-t1)} \times 10^6 \text{ (PPM/°C)}$ R1: Resistance value at room temperature (T1) R2: Resistance value at room temp. plus 100°C (T2) (Sub-clause 4.8)
Short time overload	Resistance change rate is + 5% (2.0% + 0.1Ω) Max.	Permanent resistance change after the application of potential of 2.5 time RCWV for 5 seconds (Sub-clause 4.13)
*Solderability	95% coverage Min.	Test temperature of solder: 245 ± 3°C Dipping them solder: 2-3 seconds (Sub-clause 4.17)
Soldering temp. reference	Electrical characteristics shall be satisfied. Without distinct deformation in appearance. (95% coverage Min.)	Wave soldering condition: (2 cycles Max.) Pre-heat: 100 ~ 120 °C, 30 ± 5 sec. Suggestion solder temp.: 235 ~ 255 °C, 10 sec. (Max.) Peak temp.: 260°C Reflow soldering condition: (2 cycles Max.) Pre-heat: 150 ~ 180 °C, 90 ~ 120 sec. Suggestion solder temp.: 235 ~ 255 °C, 20 ~ 40 sec. Peak temp.: 260°C  Hand soldering condition: The soldering iron tip temperature should be less than 300°C and maximum contact time should be 5 sec.



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■ CHARACTERISTICS (CON'T)

Characteristics	Limits	Test Methods (JIS C 5201-1)															
Soldering Heat	Resistance change rate is $\pm (1\% + 0.05\Omega)$ Max.	Dip the resistor into a solder bath having temperature of $260^{\circ}\text{C} \pm 3^{\circ}\text{C}$ and hold it for 10 ± 1 seconds. (Sub-clause 4.18)															
Temperature cycling	Resistance change rate is $\pm 5\% (1.0\% + 0.05\Omega)$ Max.	Resistance change after continuous 5 cycles for duty cycle specified below: <table><tr><th>Step</th><th>Temperature</th><th>Time</th></tr><tr><td>1</td><td>$-55^{\circ}\text{C} \pm 3^{\circ}\text{C}$</td><td>30 mins</td></tr><tr><td>2</td><td>Room temp.</td><td>10~15 mins</td></tr><tr><td>3</td><td>$+155^{\circ}\text{C} \pm 2^{\circ}\text{C}$</td><td>30 mins</td></tr><tr><td>4</td><td>Room temp.</td><td>10~15 mins</td></tr></table> (Sub-clause 4.19)	Step	Temperature	Time	1	$-55^{\circ}\text{C} \pm 3^{\circ}\text{C}$	30 mins	2	Room temp.	10~15 mins	3	$+155^{\circ}\text{C} \pm 2^{\circ}\text{C}$	30 mins	4	Room temp.	10~15 mins
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1	$-55^{\circ}\text{C} \pm 3^{\circ}\text{C}$	30 mins															
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3	$+155^{\circ}\text{C} \pm 2^{\circ}\text{C}$	30 mins															
4	Room temp.	10~15 mins															
Load Life in humidity	Resistance change rate is $\pm 5\% (3.0\% + 0.1\Omega)$ Max.	Resistance change after 1,000 hours (1.5 hours "on", 0.5 hour "off") at RCWV in a humidity chamber controlled at $40^{\circ}\text{C} \pm 2^{\circ}\text{C}$ and 90 to 95% relative humidity (Sub-clause 4.24.2.1)															
Load Life	Resistance change rate is $\pm 5\% (3.0\% + 0.1\Omega)$ Max.	Permanant resistance change after 1,000 hours operating at RCWV, with duty cycle of (1.5 hours "on", 0.5 hour "off") at $70^{\circ}\text{C} + 2^{\circ}\text{C}$ ambient (Sub-clause 4.25.1)															
Terminal bending	Resistance change rate is $\pm (1.0\% + 0.05\Omega)$ Max.	Twist of Test Board: Y/X - 5/90mm for 10 seconds (Sub-clause 4.33)															

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