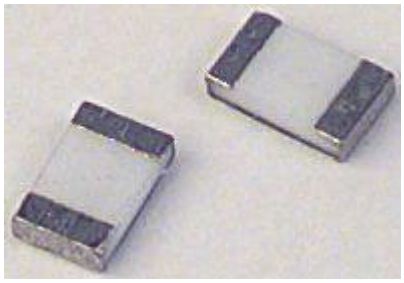
Thick Film Chip Resistors
2010

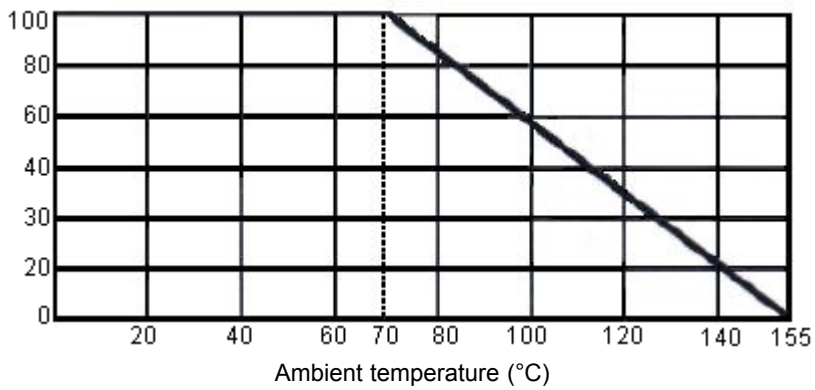


Specification Table

Type	Power Rating (W)	Temperature Range (°C)	Ambient Temperature (°C)	Resistance Range (Ω)
RMC 2010	0.5 (1/2)	-55° to +155°	70	0.01 to 1

Power Rating:
Resistors shall have a power rating based on continuous load operation at an ambient temperature of 70°C. For temperature in excess of 70°C, The load shall be derate.

Derating Curve



Nominal Resistance
Effective figures of nominal resistance shall be in accordance with E-24, E-96 and E-192 series. E-96 for 1%, E-24 series for 2%, 5%, 10% and E-192 for 0.5%, 0.25%, 0.1% .

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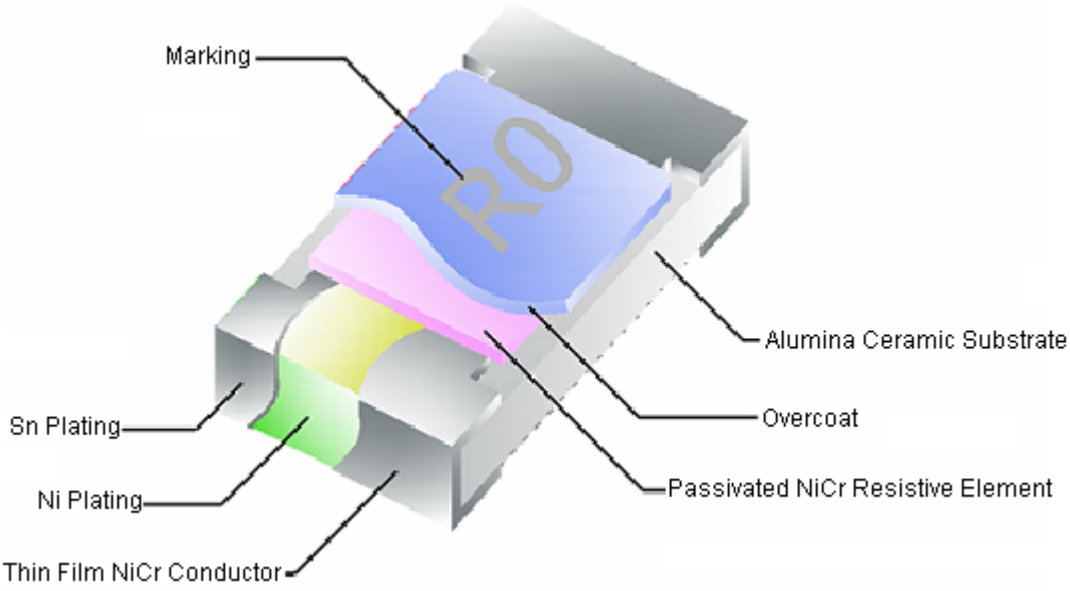
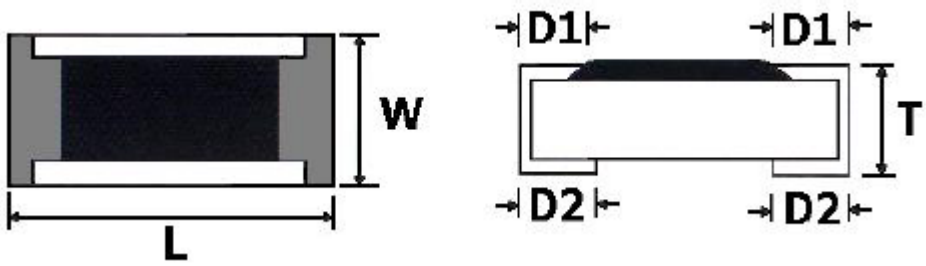
Construction:



Power Rating and Dimensions:



Dimensions : Millimetres

Dimensions

Type	L ±0.20	W ±0.15	T ±0.15	D1 ±0.30	D2 ±0.25
RMC 2010	5.00	2.45	0.60	0.60	0.50

Dimensions : Millimetres

Power Rating

Type	Power Rating at 70°C (W)	Tolerance %	Resistance Range (Ω)	TCR (PPM/°C)	Standard Series
RMC 2010	1/2 (0.5)	±1	0.01 to 0.02	±600	E-96
			0.021 to 0.05	±400	
			0.051 to 0.5	±300	
			0.501 to 1	±200	

Marking on the Resistors:

±1% Tolerance (Low value): 4 Digits, the first is Letter “R” is for decimal point denoted number of zeros. The three digits are singnificant figures of resistance.

0.22Ω

0.25Ω

Performance specifications

Characteristics	Limits	Test Methods (JIS C 5201-1)
Temperature coefficient	0.01Ω to 0.02Ω ±600 PPM/°C 0.021Ω to 0.05Ω ±400 PPM/°C 0.051Ω to 0.5Ω ±300 PPM/°C 0.501Ω to 1Ω ±200 PPM/°C	Natural resistance change per temperature degree centigrade R_2-R_1/ R_1 (t_2-t_1) x 10^6 (PPM/°C) R_1 : Resistance value at room temperature (t_1) R_2 : Resistance value at room temperature plus 100°C (t_2).
Short time overload	Resistance change rate is ±(0.5% + 0.05Ω)	Permanent resistance change after the application of a potential of 2.5 times RCWV for 5 seconds.
Insulation resistance	>1,000MΩ	Apply 500V DC between protective coating and termination for 1 minimum, then measure.
Dielectric withstanding voltage	No evidence of flashover mechanical damage, arcing or insulation break down.	Apply 500V AC between protective coating and termination for 1 minute.
Terminal bending	±(1.0% + 0.05Ω)	Twist of test board : Bending amplitude 3mm for 10 seconds.
Soldering heat	Resistance change rate is ±(0.5% + 0.05Ω)	Dip the resistor into a solder bath having a temperature of 260°C ±5°C and hold it for 10 ±1 seconds.
Load life in humidity	Resistance change rate is ±(0.5% + 0.05Ω)	Resistance change after 1000 hours (1.5 hours "on", 0.5 hour "off") at RCWV in a humidity chamber controlled at 40°C ±2°C and 90 to 95% relative humidity.
Load Life	Resistance change rate is ±(1.0% + 0.05Ω)	Permanent resistance change after 1000 hours operating at RCWV, with duty cycle of (1.5 hours"on", 0.5 hour"off") at 70°C ±2°C ambient.
Solderability	95% coverage minimum	Test temperature of solder : 245 ±3°C Dipping them solder : 2 to 3 seconds.

Resistance Preferred Value Range

E6	E12	E24	E96
10	10	10	10.0
			10.2
			10.5
			10.7
		11	11.0
			11.3
			11.5
			11.8
	12	12	12.1
			12.4
			12.7
		13	13.0
			13.3
			13.7
			14.0
			14.3
			14.7
15	15	15	15.0
			15.4
			15.8
		16	16.2
			16.5
			16.9
			17.4
			17.8
	18	18	18.2
			18.7
			19.1
			19.6
		20	20.0
			20.5
			21.0
			21.5
	22	22	22.1
			22.6
			23.2
			23.7
		24	24.3
			24.9
			25.5
			26.1
			27.7
		27	27.4
			28.0
			28.7
			29.4
		30	30.1
			30.9
			31.6
			32.4
	33	33	33.2
			34.0
			34.8
			35.7
		36	36.5
			37.4
			38.3
		39	39.2
			40.2
			41.2
			42.2
		43	43.2
			44.2
			45.3
			46.4
	47	47	47.5
			48.7
			49.9
		51	51.1
			52.3
			53.6
			54.9
	56	56	56.2
			57.6
			59.0
			60.4
		62	61.9
			63.4
			64.9
			66.5
	68	68	68.1
			69.8
			71.5
			73.2
		75	75.0
			76.8
			78.7
			80.6
	82	82	82.5
			84.5
			86.6
			88.7
		91	90.9
			93.1
			95.3
			97.6

Above values in accordance with IEC Publication 63 (1963) and BS2488

Part Number Table

Description	Part Number
Resistor, 0R2, 0.5W, 2010, 1%	MC2010W2F200LT4E
Resistor, 0R03, 0.5W, 2010, 1%	MC2010W2F300MT4E
Resistor, 0R33, 0.5W, 2010, 1%	MC2010W2F330LT4E
Resistor, 0R022, 0.5W, 2010, 1%	MC2010W2F220MT4E
Resistor, 0R01, 0.5W, 2010, 1%	MC2010W2F100MT4E
Resistor, 0R015, 0.5W, 2010, 1%	MC2010W2F150MT4E
Resistor, 0R033, 0.5W, 2010, 1%	MC2010W2F330MT4E

Part Number Explanation:

MC	2010	W2	F	200L	T	4	E
	Product Type	Wattage	Tolerance	Ohmic Value	Packing Type	Packing Quantity	Special Feature

Wattage : W2 = 1/2W.
Tolerance : F = ±1%.
Ohmic Value : Where R = Ohms = Ω.
K = Kiloohms = KΩ.
M = Megaohms = MΩ.
And replaces the decimal point.
eg: 1R5 = 1.5Ω.
4K7 = 4.7KΩ.
6M8 = 6.8MΩ.
Parking Type : T = T/R Packing.
Packing Quantity : **4** = 4000 pieces.
Special Feature : E = Lead free.

Stocked Values

Tolerance	Wattage (W)	Preferred Value Range	Range Value
1%	0.063	E96	1R5 - 1M
1%	0.1	E24	1R5 - 1M
1%	0.125	E24	10R - 1M

Notes:

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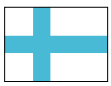

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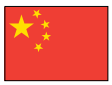

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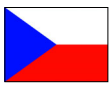

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