



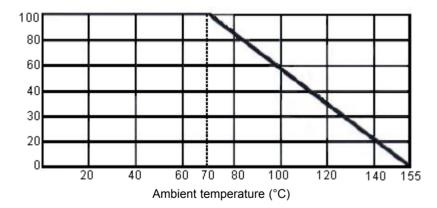
### **Specification Table**

Туре	Power Rating (W)	Maximum Working Voltage (V)	Maximum Overload Voltage (V)	Temperature Range (°C)	Ambient Temperature (°C)	Resistors Range (Special Low) (Ω)	Resistors Range (Ω)	Resistors Range (Special High) (Ω)
RMC TC05	0.10 (1/10)	100	200	-55 to +155	70	4.7 to 9.76	10 to 1M	1.1M to 2M

#### **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**

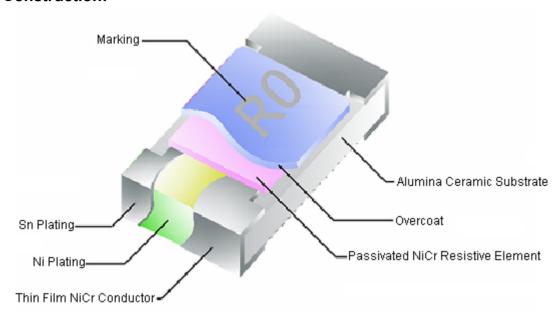
Effective figures of nominal resistance shall be in accordance with E-24, E-96 and E-192 series. E-96 for 1%, E-24 series for 2%, 5%, 10% and E-192 for 0.5%, 0.25%, 0.1% .



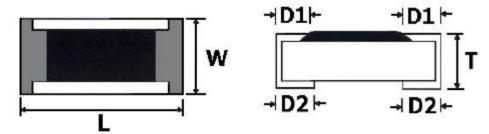
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#### **Construction:**



## **Power Rating and Dimensions**



Dimensions : Millimetres

#### **Dimensions**

Туре	L ±0.15	W + 0.15 - 0.10	T ±0.10	D1 ±0.20	D2 ±0.25
TC05	2.00	1.25	0.55	0.40	0.40

Dimensions : Millimetres

## **Power Rating**

Туре	Power Rating at 70°C (W)	Tolerance %	Resistance Range (Special Low) (Ω)	Resistance Range (Ω)	Resistance Range (Special High) (MΩ)	Standard Series	PPM/°C
TC05	0.10 (1/10)	±0.1	4.7 to 9.76	10 to 1M	1.1 to 2	E-192	25



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### Marking on the Resistors:

±0.1% Tolerance : 4 Digits, the first three digits are singnificant figures of resistance and the fourth digit denoted number of zeros.Letter"R" is for decimal point.

1000	100Ω	2741	2.74ΚΩ

## **Performance specifications**

Characteristics	Limits	Test Methods (JIS C 5201-1)
Temperature coefficient	4.7Ω to 2MΩ ±25 PPM/°C	Natural resistance change per temperature degree centigrade $R_2\text{-}R_1/\ R_1\ (t_2\text{-}t_1)\ x\ 10^6\ (PPM/^\circ\text{C})$ $R_1 \qquad : \text{Resistance value at room temperature } (t_1)$ $R_2 \qquad : \text{Resistance value at room temperature plus}$ $100^\circ\text{C}\ (t_2).$
Short time overload	Resistance change rate is $\pm (0.5\% + 0.05\Omega)$	Permanent resistance change after the application of a potential of 2.5 times RCWV for 5 seconds.
Insulation resistance	>1,000MΩ	Apply 100V 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 maximum. overload voltage for 1 minute.
Terminal bending	$\pm (0.2\% + 0.05\Omega)$	Twist of test board : Y/X = 5/90mm for 10 seconds.
Soldering heat	Resistance change rate is $\pm (0.2\% + 0.05\Omega)$	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 $\pm (0.3\% + 0.05\Omega)$	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 $\pm (0.2\% + 0.05\Omega)$ >7K $\Omega \pm (0.5\% + 0.05\Omega)$	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 : 260°C ±5°C Dipping them solder : 2 ±0.5 seconds.



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## **Resistance Preferred Value Range**

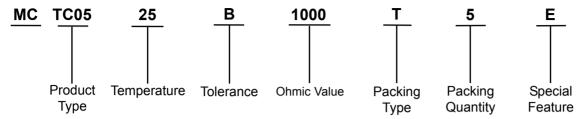
10.2     22     22     22     22     2       10.5     2       10.7     11     11.0     2       11.3     24     2       11.5     2     24     2       11.8     2     2     2       12     12     12.1     2       12.7     13     13.0     2       13.3     2     27     27     2       13.3     2     2     2     2       13.3     3     3     3     3       14.0     30     3     3       14.7     3     3     3     3       15     15     15.0     3     3       15.8     3     3     3     3       16     16.2     3     3       16.9     36     3       17.4     3     3	21.5 22.1 47 22.6 23.2 23.7 24.3 24.9 25.5 26.1 27.7 27.4 28.0	7 47 56	51 56	46.4 47.5 48.7 49.9 51.1 52.3 53.6 54.9 56.2
10.5       10.7       11     11.0       11.3     24       11.5     2       11.8     2       12     12.1       12.7     27       13     13.0       13.3     2       13.7     2       14.0     30       14.3     3       14.7     3       15     15     15.0       15.8     3       16     16.2       16.5     3       16.9     36       3     3       <	22.6 23.2 23.7 24.3 24.9 25.5 26.1 27.7 27.4		51	48.7 49.9 51.1 52.3 53.6 54.9 56.2
10.7       11     11.0       11.3     24       11.5     2       11.8     2       12     12     12.1       12.7     27     27       13     13.0     2       13.3     2     2       14.0     30     3       14.3     3     3       14.7     3     3       15     15     15.0     3       15.8     3     3     3       16     16.2     3       16.5     3     3       17.4     3     3	23.2 23.7 24.3 24.9 25.5 26.1 27.7 27.4	56		49.9 51.1 52.3 53.6 54.9 56.2
11     11.0       11.3     24       11.5     2       11.8     2       11.8     2       11.8     2       11.8     2       11.8     2       12.1     2       12.7     27     27       13     13.0       13.3     2       13.7     2       14.0     30     3       14.3     3       14.7     3       15     15     15.0       15.8     3       16     16.2       16.5     3       16.9     36       17.4     3	23.7 24.3 24.9 25.5 26.1 27.7 27.4	56		51.1 52.3 53.6 54.9 56.2
11.3     24     2       11.5     2       11.8     2       12     12     12.1       12.7     27     27       13     13.0     2       13.3     2     2       14.0     30     3       14.1     3     3       14.7     3     3       15     15     15.0     3       15.4     33     33     33       15.8     3     3       16     16.2     3       16.9     36     3       17.4     3     3	24.3 24.9 25.5 26.1 27.7 27.4	56		52.3 53.6 54.9 56.2
11.5     22       11.8     22       12     12.1     22       12.7     27     27     27       13     13.0     2       13.3     2     2       14.0     30     3       14.3     3     3       14.7     3     3       15     15     15.0     3       15.8     3     3     3       16     16.2     3       16.5     3     3       16.9     36     3       17.4     3     3	24.9 25.5 26.1 27.7 27.4	56	56	53.6 54.9 56.2
11.8       12     12     12.1       12.7     27     27       13     13.0       13.3     2       13.7     2       14.0     30     3       14.3     3       14.7     3       15     15     15.0       15.8     3       16     16.2       16.9     36       17.4     3	25.5 26.1 27.7 27.4 28.0	56	56	54.9 56.2
12     12     12.1       12.7     27     27       13     13.0       13.3     2       14.0     30     3       14.3     3       14.7     3       15     15     15.0       15.4     33     33     33       15.8     3       16     16.2       16.5     3       16.9     36     3       17.4     3	26.1 27.7 27.4 28.0	56	56	56.2
12.4     27       12.7     27       13     13.0       13.3     2       14.0     30       14.3     3       14.7     3       15     15     15.0       15.8     3       16     16.2       16.9     36       17.4     3	27.7 27.4 28.0	56	56	
12.7     27     27     2       13     13.0     2       13.7     2     30     3       14.0     30     3       14.3     3     3       14.7     3     3       15     15     15.0     3       15.4     33     33     33     3       15.8     3     3     3       16     16.2     3       16.5     3     36     3       17.4     3     3	27.4 28.0			
13     13.0       13.3     2       13.7     2       14.0     30       14.3     3       14.7     3       15     15       15.4     33       15.8     3       16     16.2       16.5     3       16.9     36       17.4     3	28.0			57.6
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				59.0
13.7 14.0 14.3 14.7 15 15 15 15 15 15.4 15.8 16 16.5 16.9 17.4	00.7			60.4
14.0     30     3       14.3     3     3       14.7     3     3       15     15     15.0     3       15.4     33     33     33     3       15.8     3     3     3       16     16.2     3     3       16.5     3     3     3       16.9     36     3       17.4     3	.0.7		62	61.9
14.3       14.7       15     15       15.4       15.8       16     16.2       16.5       16.9       17.4       3	9.4			63.4
14.7       15     15     15.0       15.4     33     33     33       15.8     3       16     16.2       16.5     3       16.9     36     3       17.4     3	0.1			64.9
15 15 15 15.0 15.4 15.8 16 16.2 16.5 16.9 17.4	80.9			66.5
15.4 15.8 16 16.2 16.5 16.9 17.4	31.6 68	8 68	68	68.1
15.8 16 16.2 16.5 16.9 17.4 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	32.4			69.8
16     16.2       16.5     3       16.9     36       17.4     3	33.2			71.5
16.5 16.9 17.4 3 3 36 3	34.0			73.2
16.9 36 3 17.4 3	34.8		75	75.0
17.4	35.7			76.8
	6.5			78.7
	37.4			80.6
	88.3	82	82	82.5
18 18 18.2 39 39 3	9.2			84.5
18.7	0.2			86.6
	1.2			88.7
19.6	2.2		91	90.9
20 20.0 43 4				93.1
20.5	3.2			95.3
21.0	3.2 4.2			97.6

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





## **Part Number Explanation:**



Product Type: TC05 = 0805.Temperature: 25 = 25PPM.Tolerance: B =  $\pm 0.1\%$ .

**Ohmic Value** : Where R = Ohms =  $\Omega$ .

K = Kiloohms = KΩ. M = Megaohms = MΩ.

And replaces the decimal point.

eg:  $1R5 = 1.5\Omega$ .  $4K7 = 4.7K\Omega$ .  $6M8 = 6.8M\Omega$ .

Parking Type : T = T/R Packing.
Packing Quantity : 5 = 5000 pieces.

**Special Feature** : E = Lead free plating type.

#### **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

