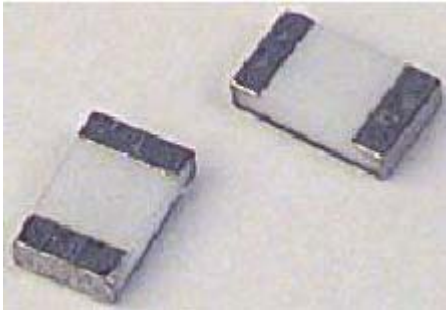
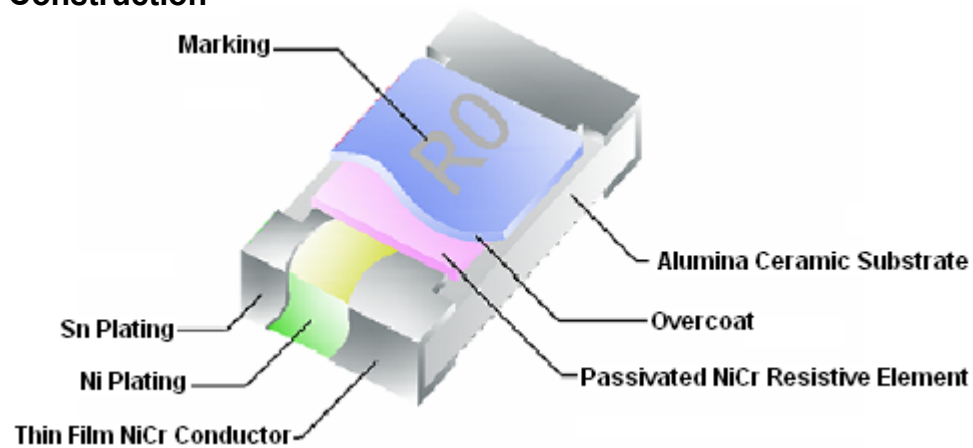


# Thick Film Chip Resistors

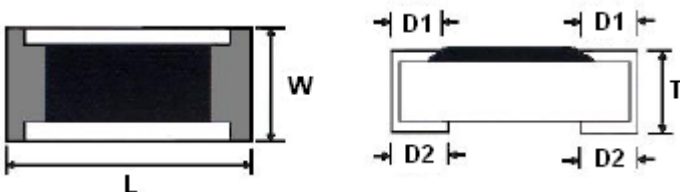
## 2512 Series



### Construction



### Power Rating and Dimensions



Dimensions : Millimetres

### Dimensions

Type	L $\pm 0.2$	W $\pm 0.15$	T $\pm 0.1$	D1 $\pm 0.3$	D2 $\pm 0.25$
RMC 2512	6.35	3.15	0.6	0.6	0.55

Dimensions : Millimetres

### Power Rating

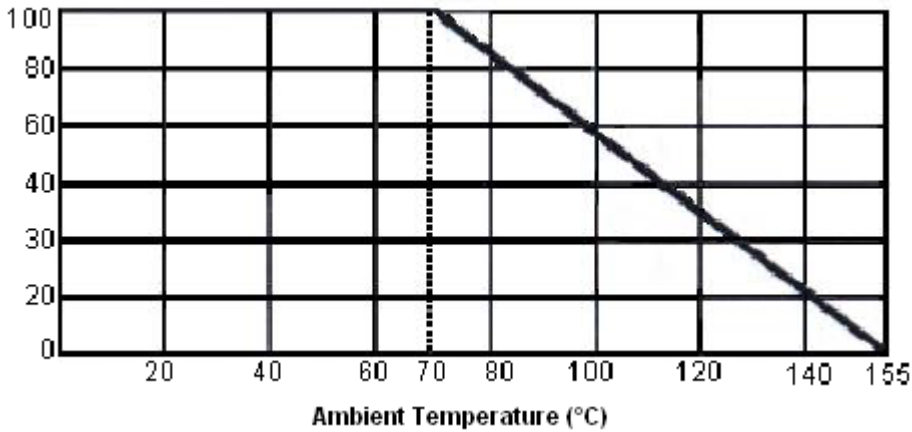
Type	Power Rating at 70°C (W)	Tolerance %	Resistance Range ( $\Omega$ )	TCR (PPM/°C)	Standard Series
RMC 2512	1	$\pm 1$	0.01 to 0.02	$\pm 600$	E-96
			0.021 to 0.05	$\pm 400$	
			0.051 to 0.5	$\pm 300$	
			0.501 to 1	$\pm 200$	

# Thick Film Chip Resistors

## 2512 Series

### 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 derated



### Nominal Resistance

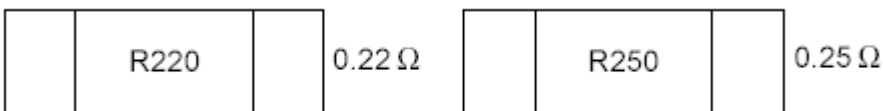
Effective figures of nominal resistance shall be in accordance with E-24, E-96 and E-192 series. E-96 for 1%, E-24 series for 2%, 5%, 10% and E-192 for 0.5%, 0.25%, 0.1%

### Specification Table

Type	Power Rating (W)	Temperature Range (°C)	Ambient Temperature (°C)	Resistance Range (Ω)
RMC 2512	1	-55 to +155	70	0.01 to 1

### 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 significant figures of resistance



# Thick Film Chip Resistors

## 2512 Series



### Performance Specification

Characteristics	Limits	Test Methods (JIS C 5201-1)
Temperature Coefficient	0.01 $\Omega$ to 0.02 $\Omega$ $\pm 600$ PPM / $^{\circ}\text{C}$ 0.021 $\Omega$ to 0.05 $\Omega$ $\pm 400$ PPM / $^{\circ}\text{C}$ 0.051 $\Omega$ to 0.5 $\Omega$ $\pm 300$ PPM / $^{\circ}\text{C}$ 0.501 $\Omega$ to 1 $\Omega$ $\pm 200$ PPM / $^{\circ}\text{C}$	Natural resistance change per temperature degree centigrade $R_2 - R_1 / R_1 (t_2 - t_1) \times 10^6$ (PPM / $^{\circ}\text{C}$ )  R1 : Resistance value at room temperature ( $t_1$ ) R2 : 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	$\geq 1,000 \text{ M}\Omega$	Apply 500 V 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 500 V ac between protective coating and termination for 1 minute
Terminal Bending	$\pm (1\% + 0.05 \Omega)$	Twist of test board : Bending amplitude 3 mm for 10 seconds
Soldering Heat	Resistance change rate is $\pm (0.5\% + 0.05 \Omega)$	Dip the resistor into a solder bath having a temperature of 260 $^{\circ}\text{C} \pm 3^{\circ}\text{C}$ and hold it for 10 $\pm 1$ seconds
Load Life in Humidity	Resistance change rate is $\pm (0.5\% + 0.05 \Omega)$	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
Load Life	Resistance change rate is $\pm (1\% + 0.05 \Omega)$	Permanent resistance change after 1,000 hours operating at RCWV with duty cycle of (1.5 hours "on", 0.5 hour "off") at 70 $^{\circ}\text{C} \pm 2^{\circ}\text{C}$ ambient
Solderability	95% coverage minimum	Test temperature of solder : 245 $\pm 3^{\circ}\text{C}$ Dipping them solder : 2 to 3 seconds

# Thick Film Chip Resistors

## 2512 Series



### Resistance Preferred Value Range

E6	E12	E24	E96	E6	E12	E24	E96	E6	E12	E24	E96
10	10	10	10				21.5				46.4
			10.2	22	22	22	22.1	47	47	47	47.5
			10.5				22.6				48.7
			10.7				23.2				49.9
		11	11				23.7			51	51.1
			11.3			24	24.3				52.3
			11.5				24.9				53.6
			11.8				25.5				54.9
	12	12	12.1				26.1	56	56	56	56.2
			12.4				27.7				57.6
			12.7	27	27	27	27.4				12.7
		13	13				28				59
			13.3				28.7				60.4
			13.7				29.4			62	61.9
			14			30	30.1				63.4
			14.3				30.9				64.9
			14.7				31.6				66.5
			15				32.4	68	68	68	68.1
15	15	15	15	33	33	33	33.2				69.8
			15.4				34				71.5
			15.8				34.8			75	75
	16	16	16.2				35.7				76.8
			16.5				36.5				78.7
			16.9			36	36.5				80.6
			17.4				37.4				82.5
			17.8				38.3	82	82	82	82.5
	18	18	18.2			39	39.2				84.5
			18.7				40.2				86.6
			19.1				41.2				88.7
			19.6				42.2			91	90.9
		20	20				43.2				93.1
			20.5				44.2				95.3
			21				45.3				97.6

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

### Part Number Table

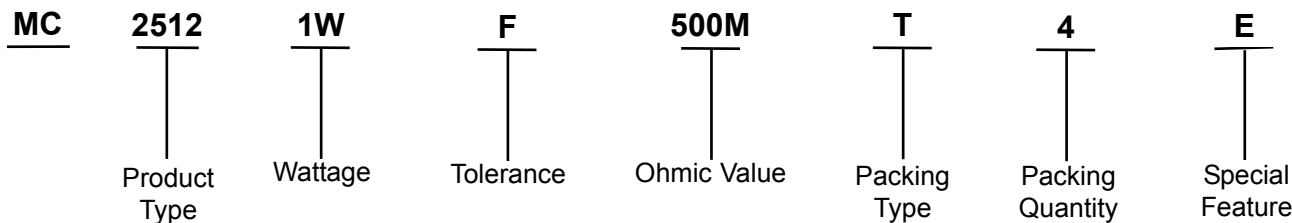
Description	Part Number
Resistor, 0R05, 1W, 2512, 1%	MC25121WF500MT4E
Resistor, 0R025, 1W, 2512, 1%	MC25121WF250MT4E
Resistor, 0R03, 1W, 2512, 1%	MC25121WF300MT4E
Resistor, 0R22, 1W, 2512, 1%	MC25121WF220LT4E
Resistor, 0R47, 1W, 2512, 1%	MC25121WF470LT4E
Resistor, 0R3, 1W, 2512, 1%	MC25121WF300LT4E
Resistor, 0R01, 1W, 2512, 1%	MC25121WF100MT4E

# Thick Film Chip Resistors



## 2512 Series

### Part Number Explanation:



- Wattage** : 1W = 1W  
**Tolerance** : F =  $\pm 1\%$   
**Ohmic Value** : Where R = Ohms =  $\Omega$   
K = Kilo ohms =  $K\Omega$   
M = Mega ohms =  $M\Omega$   
And replaces the decimal point  
eg: 1R5 = 1.5  $\Omega$ , 4K7 = 4.7  $K\Omega$ , 6M8 = 6.8  $M\Omega$
- Packing Type** : T = T / R packing  
**Packing Quantity** : 4 = 4,000 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

**Important Notice** : This data sheet and its contents (the "Information") belong to the members of the Premier Farnell group of companies (the "Group") or are licensed to it. No licence is granted for the use of it other than for information purposes in connection with the products to which it relates. No licence of any intellectual property rights is granted. The Information is subject to change without notice and replaces all data sheets previously supplied. The Information supplied is believed to be accurate but the Group assumes no responsibility for its accuracy or completeness, any error in or omission from it or for any use made of it. Users of this data sheet should check for themselves the Information and the suitability of the products for their purpose and not make any assumptions based on information included or omitted. Liability for loss or damage resulting from any reliance on the Information or use of it (including liability resulting from negligence or where the Group was aware of the possibility of such loss or damage arising) is excluded. This will not operate to limit or restrict the Group's liability for death or personal injury resulting from its negligence. Multicomp is the registered trademark of the Group. © Premier Farnell plc 2012.