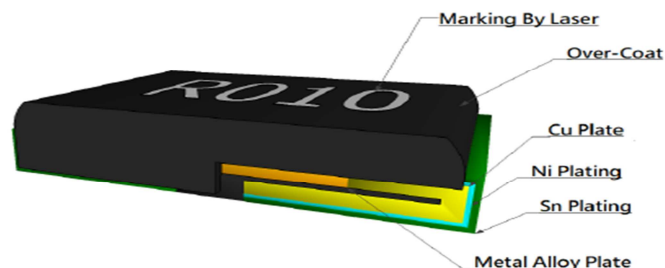


# MR 2512 / MR2818

## Metal Alloy Low Resistance Chip Resistor (MR series)

- Low Resistance / TCR / Inductance
- Excellent long term stability
- RoHS compliant and halogen Free
- Lead Free
- High precision current sensing and voltage division



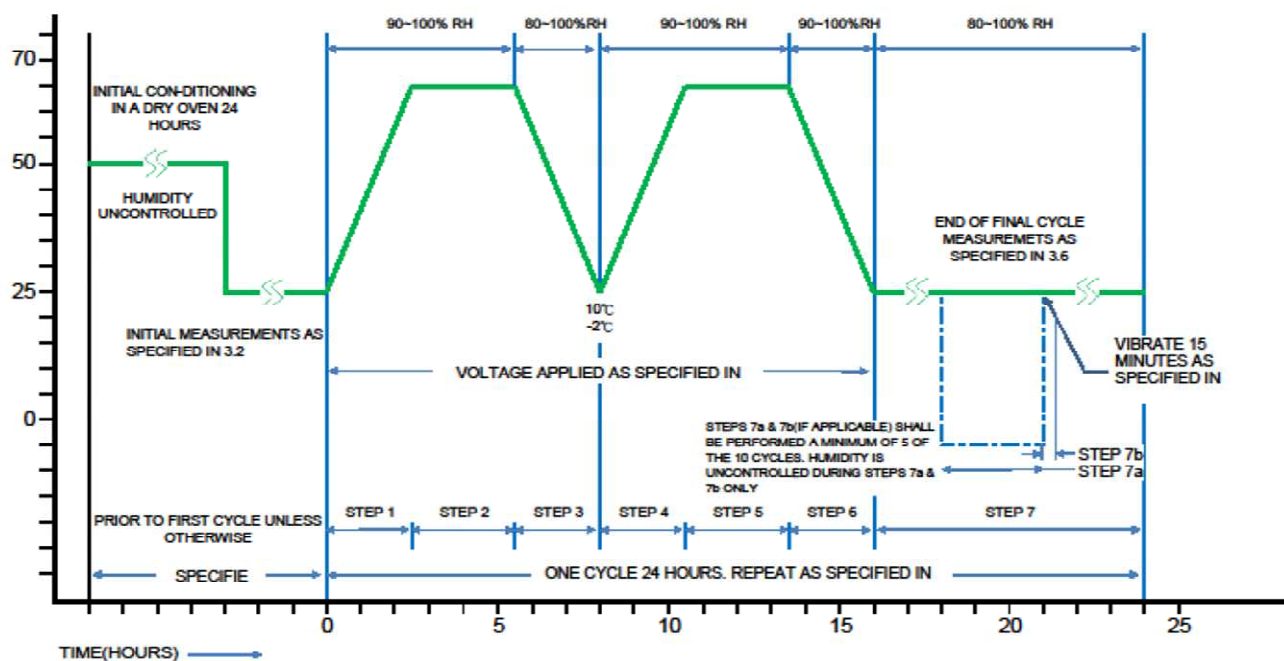
### ■ GENERAL SPECIFICATIONS

Model	Power Rating (@70℃)	T.C.R (ppm/℃)	Max Rating Current	Max Overload Current	Resistance Range (mΩ)	Tolerance	Material
MR2512	2W	± 50	22.36	50	4~100	1.0%(F) 2.0%(G) 5.0%(J)	4~10mΩ:MnCu
	3W		27.38	61.23	4~10		6~100mΩ:FeCrAl
MR2818	5W	± 200	27.38	70.71	4~5		4~10mΩ:MnCu
		± 75	35.35	57.73	6~20		4~5mΩ:MnCu 6~20mΩ:MnCu

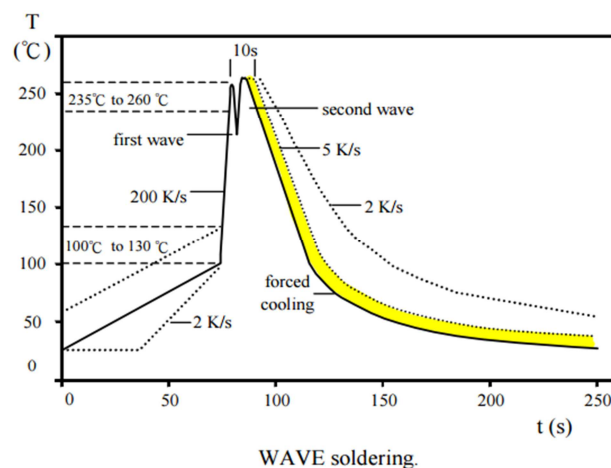
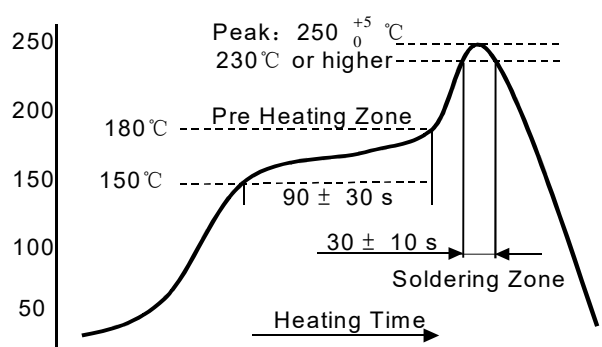
### ■ CHARACTERISTICS

Test	Resistance value	Test Method
Temperature Coefficient		$t_1=25\pm 3^{\circ}\text{C}, t_2=125\pm 3^{\circ}\text{C}$ $R_1= \text{resistance at } 25^{\circ}\text{C}, R_2= \text{resistance at } 125^{\circ}\text{C}$ $(\text{ppm}/^{\circ}\text{C}) = \frac{R_2 - R_1}{R_1(T_2 - T_1)} \times 10^6$
Short time OverLoad	±1%	MR2512-2W : 5 times of rated power, Duration : 5 Sec MR2512-3W : 5 times of rated power, Duration : 5 Sec MR2818-5W : 4 times of rated power, Duration : 5 Sec
High Temperature Exposure	±0.1%	1,000hrs at + 170℃
Soldering Heat	±0.5%	260±5℃ for 10 seconds
Load at Rated Power	±1%	1,000 hrs @ 70℃, 1.5 hrs "On" , 0.5hrs "OFF"
Dielectric Withstanding Voltage		Applied 500VAC for 1minute, and Limit surge current Max 50mA
Temperature Cycling	±1%	55℃ to +150℃, 1,000cycles, 15min at each extreme
Bias Humidity	±1%	1,000hrs@+85℃/85%RH, 10%Bias 1.5hrs "ON", 0.5hrs "OFF"
Solderability	>95% coverage	245±5℃ for 2±0.5secs
Core Body Strength	No broken	Central part pressurizing force : 5N , 10 seconds
Terminal Strength	No broken	Pressurizing force : 17.7N , 10 seconds
Terminal Bending Strength	±0.5%/ No broken	Bending once for 2mm , 10 seconds
Moisture Resistance (Climatic Sequence)	±0.5% /	T=24 hours / Cycle ,10Cycles . Steps 7a& 7b not required. Unpowered .(Figure 1)

\* Figure 1 (Moisture Resistance)

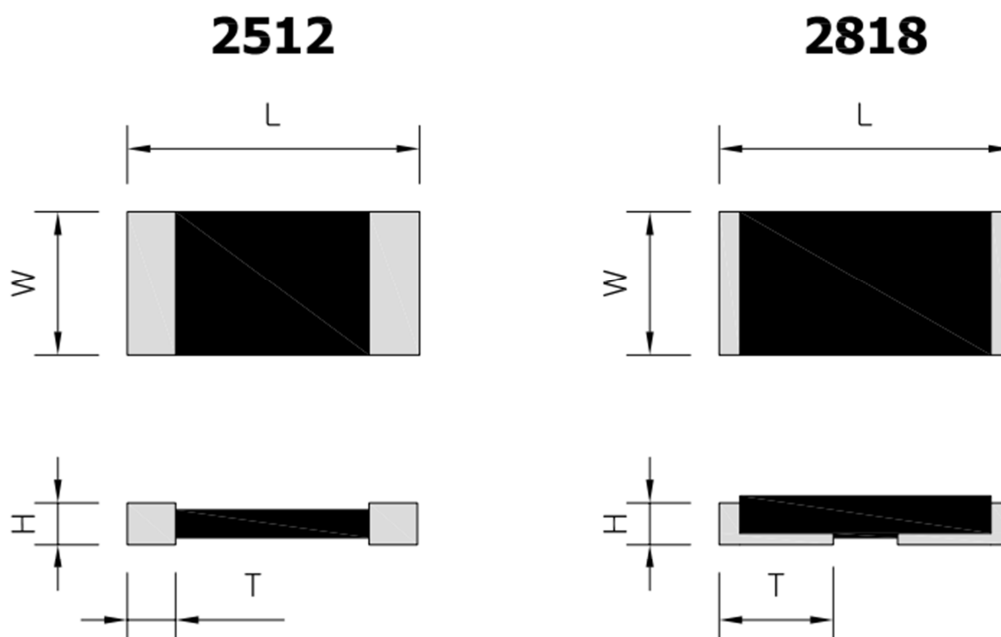


\* Soldering Profile



## ■ DIMENSIONS

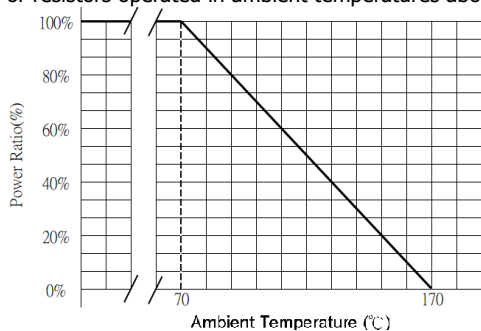
Unit : mm



Model	Power Rating	Resistance Range (Material)	L	W	H	T
MR2512	2W	4~10mΩ(MnCu)	6.35±0.3	3.10±0.3	0.56±0.254	1.05±0.30
		6~100mΩ(FeCrAl)			0.90±0.254	0.80±0.30
	3W	4~10mΩ(MnCu)			0.56±0.254	1.05±0.30
MR2512	5W	4~20mΩ(MnCu)	7.15±0.3	4.95±0.3	1.65±0.254	2.90±0.30

## ■ DERATING CURVES

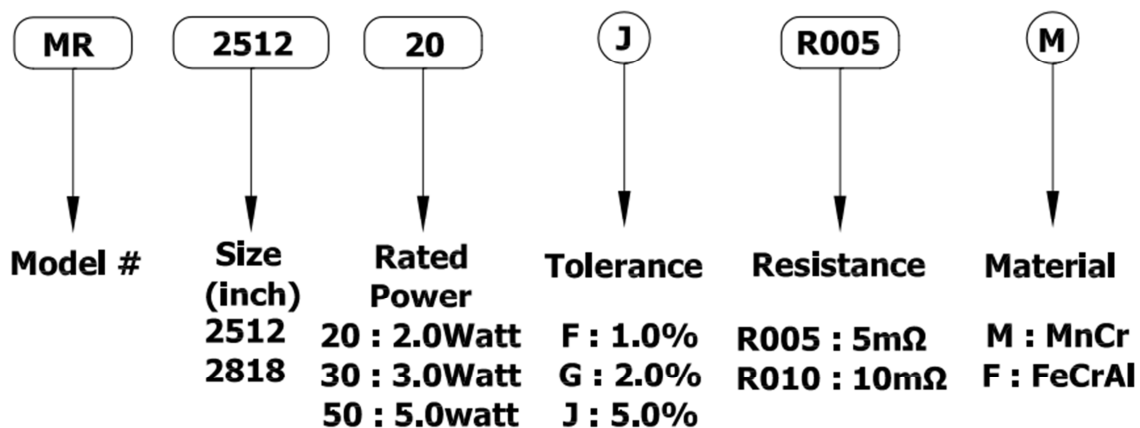
The Operating Temperature Range: -55°C ~+170°C.  
For resistors operated in ambient temperatures above 70°C



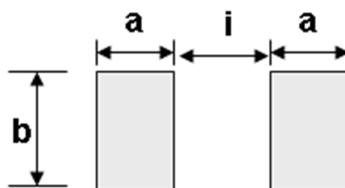
## ■ Marking Format:

- All the products marking are 4 digits.
- "R" designates the decimal location in ohms  
e.g. 3mΩ the product marking is R003.  
10mΩ the product marking is R010.
- The criteria to distinguishing the mark on the surface of products are that characters can be identified.

## ORDERING PROCEDURE EXAMPLE



## Recommend Land Pattern Design



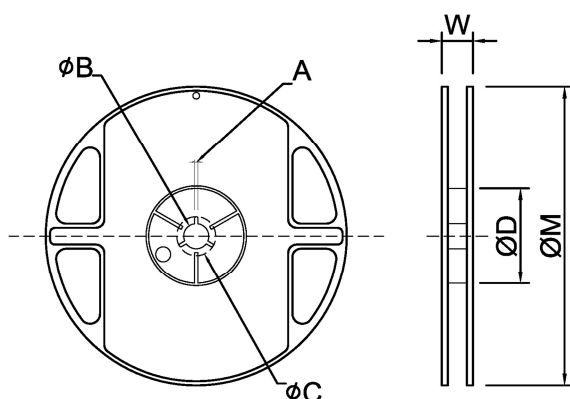
Unit: mm

TYPE	Resistance Range	a	b	i
MR2512 – 2W/3W	4mΩ~10mΩ (MnCu)	2.64	4.53	3.83
MR2512 – 2W	6mΩ~100mΩ (FeCrAl)	2.64	4.53	3.83
MR2818 – 5W	4mΩ~20mΩ	3.50	5.30	0.60

## Packing Quantity

TYPE	PCS / Reel
MR2512-2W/3W	4,000
MR2818-5W	3,500

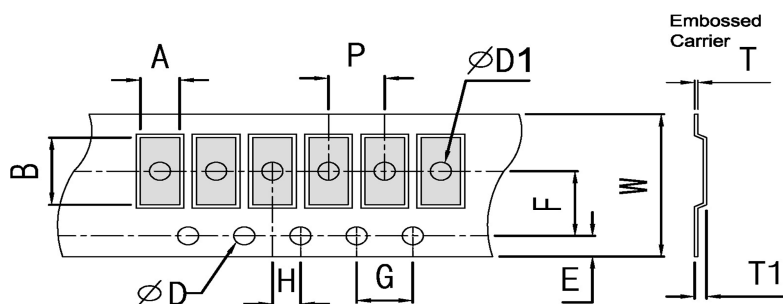
## ■ Reel Dimensions



Unit: mm

Reel Type / Tape	A	φB	φC	φD	W	φM
7" reel for 12 mm embossed	2.5±0.5	13.5±0.5	17.7±0.5	60.0±0.5	16.2±0.5	178±1.0
13" reel for 16 mm embossed	2.3±0.5	13.5±0.5	17.7±0.5	99.0±0.5	20.7±0.5	330±1.0

## ■ Embossed Dimensions



Unit: mm

Item	W	P	E	F	φD	φD1	G	H	A	B	T1	T
MR2512	12.0±0.30	4.0±0.10	1.75±0.10	5.5±0.10	1.50 <sup>+0.1</sup> <sub>-0</sub>	1.55±0.10	4.0±0.10	2.0±0.10	3.50±0.10	6.75±0.10	0.90±0.10	0.20±0.05
MR2818	16.0±0.30	8.0±0.10	1.75±0.10	7.5±0.10		1.50 <sup>+0.1</sup> <sub>-0</sub>	4.0±0.10	2.0±0.10	5.21±0.10	7.69±0.10	1.97±0.10	0.30±0.05