

Low Resistance Value Chip Resistors(Current Sensing Resistors) 2512

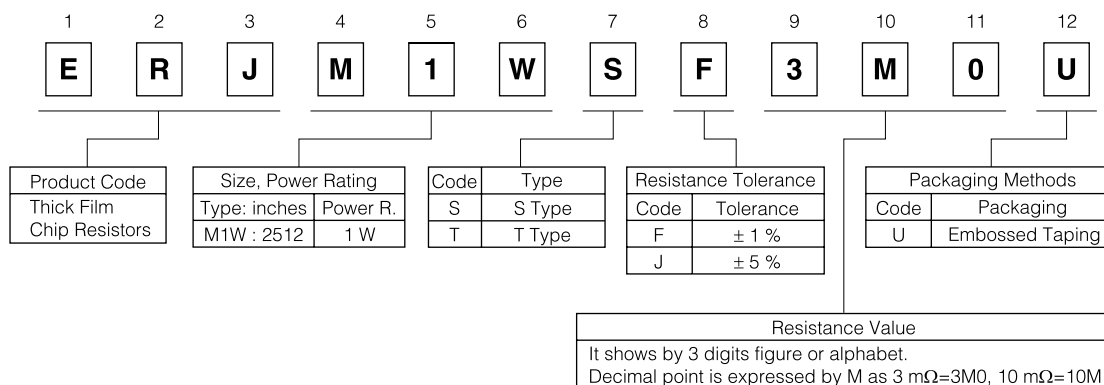
Type: **ERJM1W**



■ Features

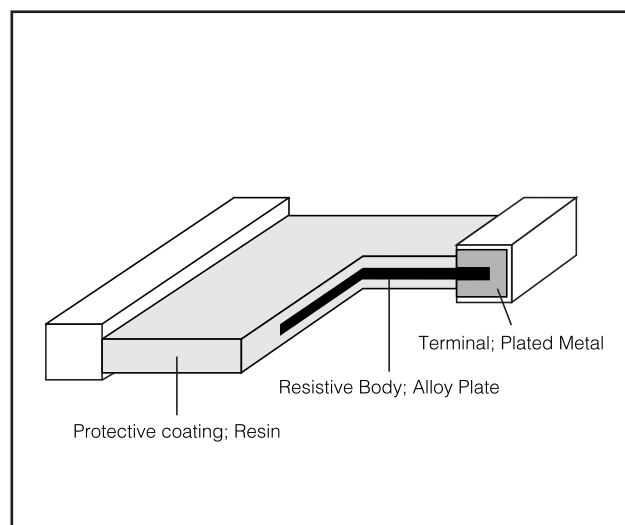
- Low resistance value and high precision(1 mΩ to 20 mΩ)
- Stable resistance not influenced by measurement position
- High heat emission
- Low profile, strong body
- Inductance less than 1.0 nH for the metal plate structure

■ Explanation of Part Numbers

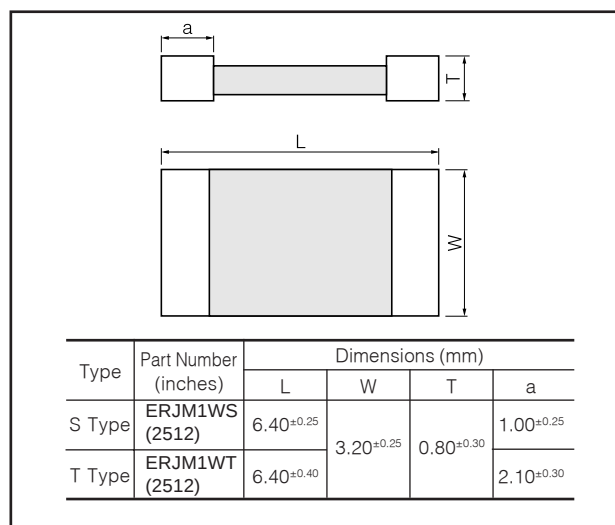


* When omitted, all the rest P/N factors shall be moved up respectively.

■ Construction



■ Dimensions in mm (not to scale)



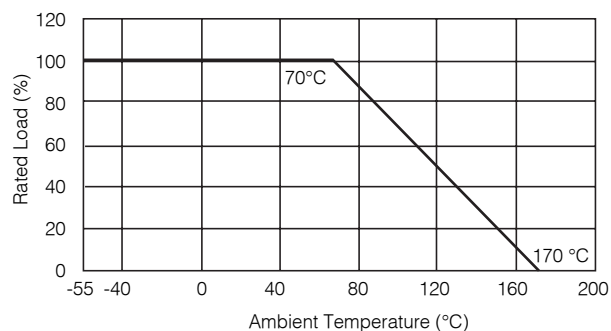
■ Ratings

Type (inches)	Power Rating (W)	Standard Resistance(mΩ)	Resistance Tolerance (%)	T.C.R. ×10 ⁻⁶ /°C(ppm/°C)	Category Temperature Range (Operating Temperature Range) (°C)	Circuit board of use
ERJM1WS (2512)	1	3, 4	F: ± 1, J: ± 5	±350	-55 to +170	You should use the aluminum substrate when the added wattage exceeds 0.5 W.
		5, 6, 10, 15, 20		±100		
ERJM1WT (2512)		1, 1.5	J: ±5	350±100		
2		F: ±1, J: ±5				
3, 4			100±50			

* Please consult factory for other values and the range

Power Derating Curve

For resistors operated in ambient temperatures above 70 °C, power rating shall be derated in accordance with the right figure.



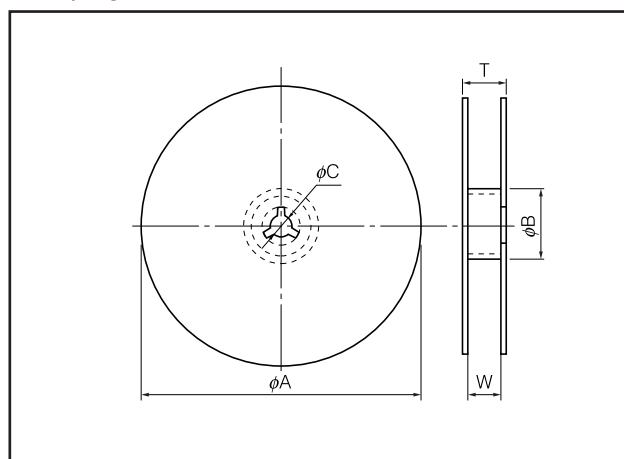
■ Packaging Method

● Standard Quantity

Type (inches)	Thickness (mm)	Weight (mg)	Embossed Taping
ERJM1WS (2512)	0.80 ± 0.30	70	3000 pcs./reel
ERJM1WT (2512)		90	

■ Taping Dimensions

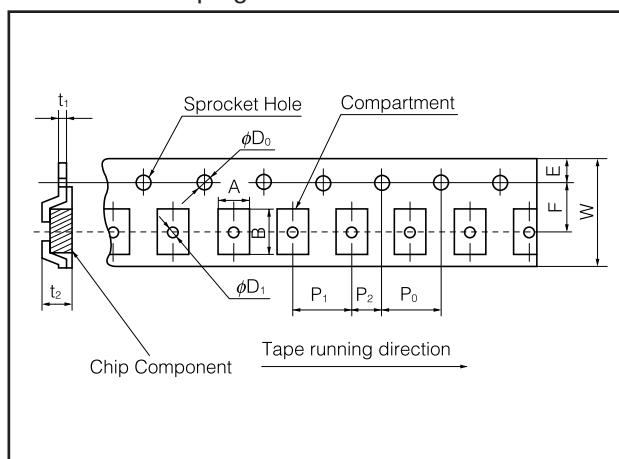
● Taping Reel



Dimensions (mm)	φA	φB	φC
	180.0 ⁰ _{-3.0}	60 min.	13.0±1.0

Dimensions (mm)	W	T
	13.0±1.0	15.4±2.0

● Embossed Taping

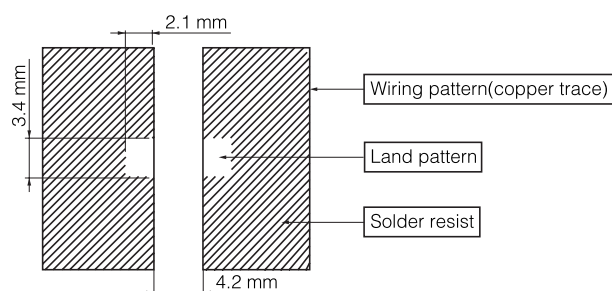


Dimensions (mm)	A	B	W	F	E	P ₀
	3.60±0.25	6.90±0.20	12.00±0.30	5.50±0.10	1.75±0.20	4.00±0.10

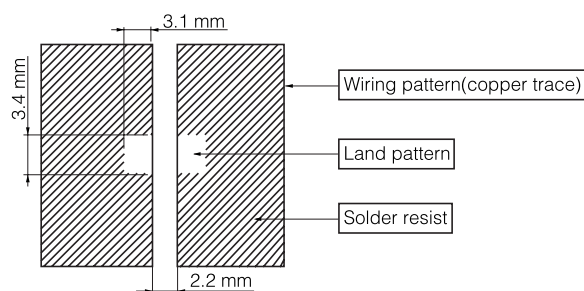
Dimensions (mm)	P ₁	P ₂	φD ₀	t ₁	t ₂	φD ₁
	4.00±0.10	2.00±0.10	1.50 ^{+0.1} ₀	0.35±0.05	1.50±0.20	1.50 ^{+0.2} ₀

■ Recommendable land pattern

<ERJM1WS>



<ERJM1WT>

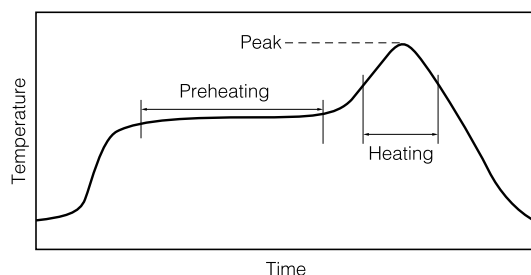


■ Recommended Soldering Conditions

Recommendations and precautions are described below.

● Recommended soldering conditions for reflow

- Reflow soldering shall be two times maximum.
- Please contact us for additional information when you use in conditions other than those specified.
- Please measure a temperature of terminations and study solderability every kind of solder and board, before actual use.



For solder (Example : Sn/Pb)

	Temperature	Time
Preheating	140 °C to 160 °C	60 s to 120 s
Main heating	Above 200 °C	30 s to 40 s
Peak	235 ± 5 °C	max. 10 s

For lead-free solder (Example : Sn/Ag/Cu)

	Temperature	Time
Preheating	150 °C to 180 °C	60 s to 120 s
Main heating	Above 230 °C	30 s to 40 s
Peak	max. 260 °C	max. 10 s

● Recommended soldering conditions for flow

	For solder		For lead-free solder	
	Temperature	Time	Temperature	Time
Preheating	140 °C to 160 °C	60 s to 120 s	150 °C to 180 °C	60 s to 120 s
Soldering	245±5 °C	20 s to 30 s	max. 260 °C	max. 10 s

⚠ Cautions for Safety

1. Rated Power and Ambient Temperature

Keep the rated power and ambient temperature within the specified derating curve.

Confirm the effect of heat produced in the actual mounting.

When the product shall be used under special condition, be sure to ask us in advance.

- Chlorine type or other high-activity flux is not recommended as the residue may affect performance or reliability of resistors.
- When soldering with soldering iron, never touch the body of the chip resistor with a tip of the soldering iron. When using a soldering iron with a tip at high temperature, solder for a time as short as possible (three seconds or less up to 350 °C).
- Avoid physical shock to the resistor and nipping of the resistor with hard tool (a pair of pliers or tweezers) as it may damage protective film or the body of resistor and may affect resistor's performance.
- When the load of more than rated power is applied under the load condition at steady state, it may impair performance and / or reliability of resistor, Never exceed the rated power.
- Avoid immersion of chip resistor in solvent for a long time. Use solvent after the effect of immersion is confirmed.
- If transient load (heavy load in a short time) like pulse is expected to be applied, carry out evaluation and confirmation test with the resistors actually mounted on your own board.