

### Fixed Metal (Oxide) Film Resistors, Surface Mount Type

Type: **ERG(X)1H (1 W)**  
**ERG(X)2H (2 W)**

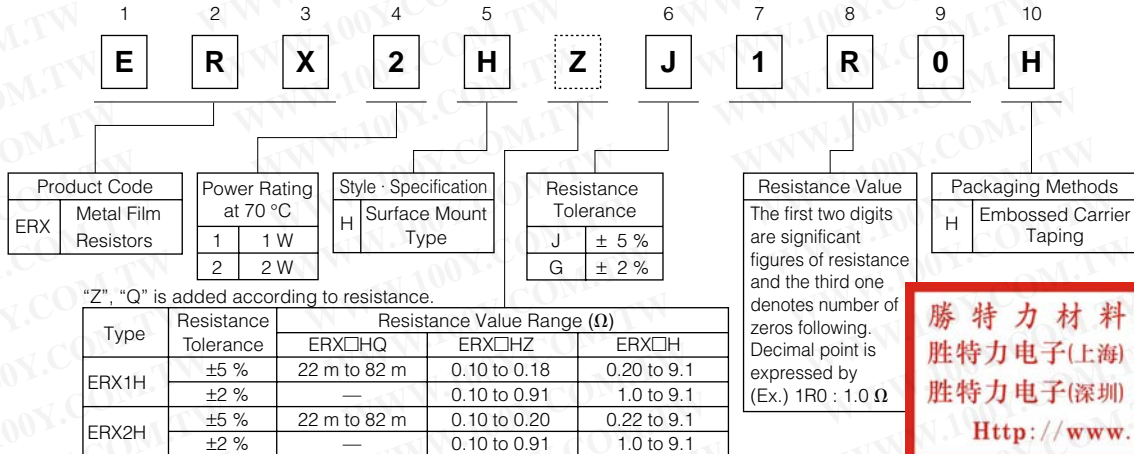
■ **Features**

- Non-flammable
- High Reliability



■ **Explanation of Part Numbers**

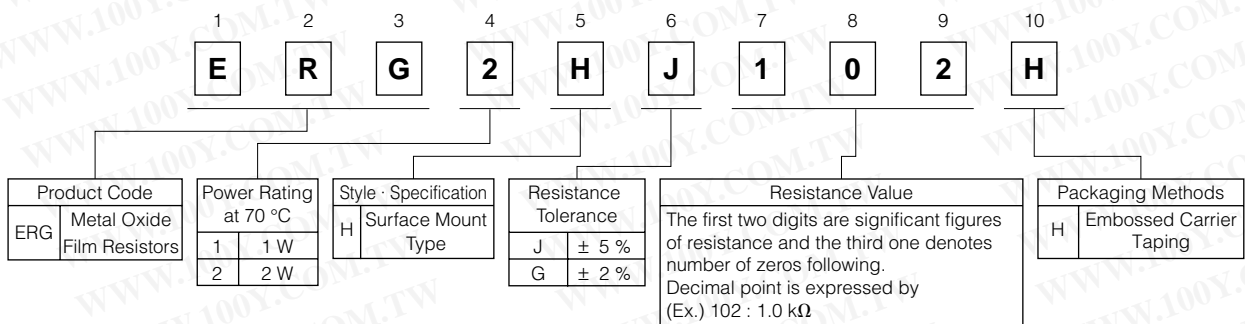
Ex.1 : ERX type



**勝特力材料 886-3-5753170**  
**勝特力电子(上海) 86-21-34970699**  
**勝特力电子(深圳) 86-755-83298787**  
[Http://www.100y.com.tw](http://www.100y.com.tw)

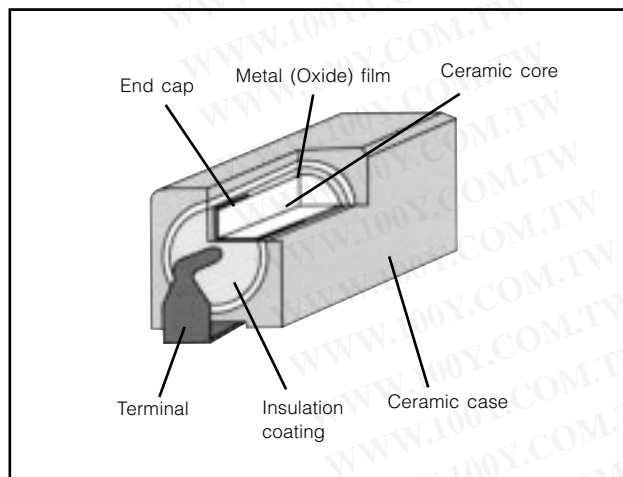
The above example 1 shows a metal film resistor SMD type, 2 W power rating, resistance value of 1.0 Ω, tolerance ±5 %, and embossed taping.

Ex.2 : ERG type

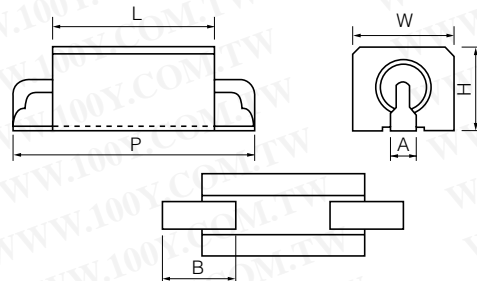


The above example 2 shows a metal oxide film resistor SMD type, 2 W power rating, resistance value of 1.0 kΩ, tolerance ±5 %, and embossed taping.

■ **Construction**



■ **Dimensions in mm (not to scale)**



Type	Dimensions (mm)					
	P	L	W	H	A	B
ERG(X)1H	12.5 <sup>+1.0</sup> <sub>-0.5</sub>	9.0±0.5	5.6±0.3	5.0±0.2	1.5±0.3	3.0±1.0
ERG(X)2H	15.0 <sup>+1.0</sup> <sub>-0.5</sub>	12.0±0.5	6.4±0.3	5.8±0.2	1.5±0.3	4.0±1.0

### ■ Ratings

Type	Power Rating at 70 °C (W) <sup>(1)</sup>	Dielectric Withstanding Voltage (VAC)	Res. Tol. (%) <sup>(2)</sup>	Resistance Range (Ω) <sup>(2)</sup>		T.C.R. [ $\times 10^{-6}/^{\circ}\text{C}$ (ppm/ $^{\circ}\text{C}$ )]	Standard Resistance Value
				min. <sup>(3)</sup>	max.		
ERG(X)1H	1	1000	J ( $\pm 5$ )	22 m	39 m	$\pm 1000$	E12
			G ( $\pm 2$ )	47 m	82 m	$\pm 500$	
			J ( $\pm 5$ )	0.1	10 k	$\pm 350$	
ERG(X)2H	2	1000	J ( $\pm 5$ )	22 m	39 m	$\pm 1000$	E12
			G ( $\pm 2$ )	47 m	82 m	$\pm 500$	
			J ( $\pm 5$ )	0.1	10 k	$\pm 350$	

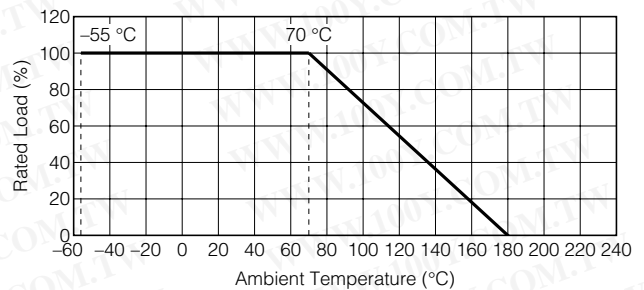
(1) Rated Continuous Working Voltage (RCWV) shall be determined from  $\text{RCWV} = \sqrt{\text{Power Rating} \times \text{Resistance Value}}$ .

(2) Resistance tolerance and resistance range is of use besides range listed, please inquire.

(3) As for the low resistance value range, "Q" or "Z" is given to the part number. (Refer to the explanation of part numbers.)

### Power Derating Curve

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



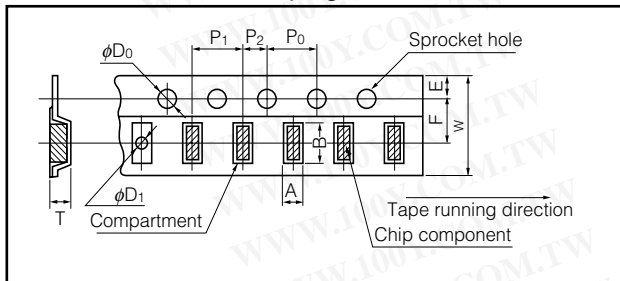
勝特力材料 886-3-5753170  
 勝特力电子(上海) 86-21-34970699  
 勝特力电子(深圳) 86-755-83298787  
[Http://www.100y.com.tw](http://www.100y.com.tw)

### ■ Packaging Methods

#### ● Standard Quantity

Type	Embossed Carrier Taping
ERG(X)1H	2000 pcs./reel
ERG(X)2H	1000 pcs./reel

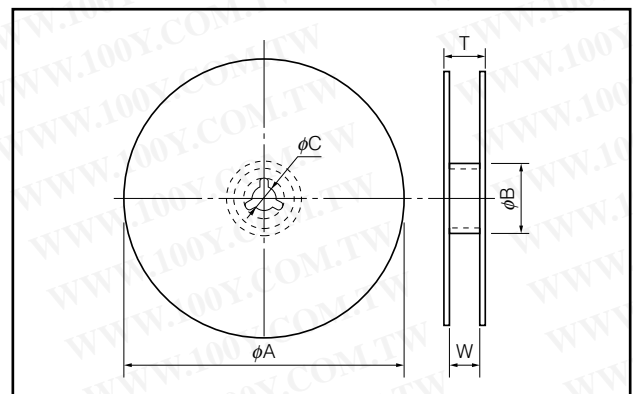
#### ● Embossed Carrier Taping



Dimensions (mm)	Type	W	F	E	A	B	P <sub>1</sub>
	1H	24.0 $\pm 0.30$	11.5 $\pm 0.10$	1.75 $\pm 0.10$	6.2 $\pm 0.20$	13.7 $\pm 0.20$	8.0 $\pm 0.10$
2H				7.0 $\pm 0.20$	16.2 $\pm 0.20$	12.0 $\pm 0.10$	

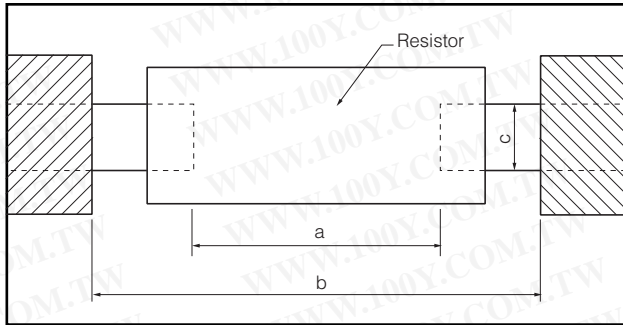
Dimensions (mm)	Type	P <sub>2</sub>	P <sub>0</sub>	φD <sub>0</sub>	φD <sub>1</sub>	T
	1H	2.00 $\pm 0.10$	4.00 $\pm 0.10$	1.50 $\pm 0.10$	1.5 min.	5.7 $\pm 0.10$
2H					6.4 $\pm 0.10$	

#### ● Taping Reel



Dimensions (mm)	Type	φA	φB	φC	W	T
	1H, 2H	380 $\pm 3$	80 $\pm 2$	13.0 $\pm 1.0$	25.5 $\pm 1.0$	29.5 $\pm 1.0$

### Recommended Land Pattern

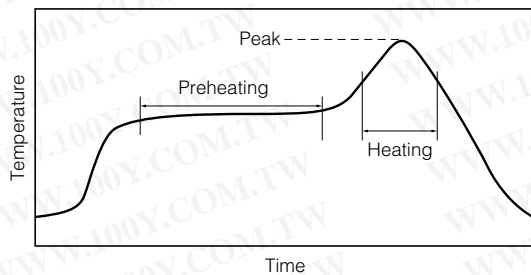


Type	Dimensions (mm)		
	a	b	c
ERG(X)1H	3.5 to 4.0	14.5 to 15.0	2.8 to 3.3
ERG(X)2H	4.0 to 4.5	17.0 to 17.5	3.1 to 3.6

### Recommended Soldering Conditions

Recommendations and precautions are described below.

- Recommended soldering conditions for reflow
  - Reflow soldering shall be performed a maximum of two times.
  - Please contact us for additional information when used in conditions other than those specified.
  - Please measure the temperature of the terminals and study every kind of solder and printed circuit board for solderability before actual use.



For soldering (Example : Sn/Pb)

	Temperature	Time
Preheating	150 °C to 180 °C	60 s to 120 s
Main heating	Above 200 °C	30 s to 40 s
Peak	235 °C	max. 10 s

For lead-free soldering (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	255 °C	max. 5 s

### ⚠ Safety Precautions

The following are precautions for individual products. Please also refer to the precautions common to Fixed Resistors shown on page ER3 of this catalog.

#### 1. Transient voltage

If there is a possibility that the transient phenomenon (significantly high voltage applied in a short time) may occur or that a high voltage pulse may be applied, make sure to evaluate and check the characteristics of Fixed Metal (Oxide) Film Resistors mounted on your product rather than only depending on the calculated power limit or steady-state conditions to complete the design or decide to use the resistors.

#### 2. Do not apply excessive tension to the terminals.

**勝特力材料 886-3-5753170**  
**勝特力电子(上海) 86-21-34970699**  
**勝特力电子(深圳) 86-755-83298787**  
**Http://www.100y.com.tw**