



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



## Contact us

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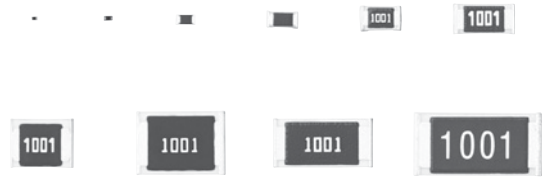
Email & Skype: info@chipsmall.com Web: www.chipsmall.com

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## Precision Thick Film Chip Resistors

Type: **ERJ XG, 1G**  
**ERJ 1R, 2R, 3R, 6R**  
**ERJ 3E, 6E, 8E, 14, 12, 1T**



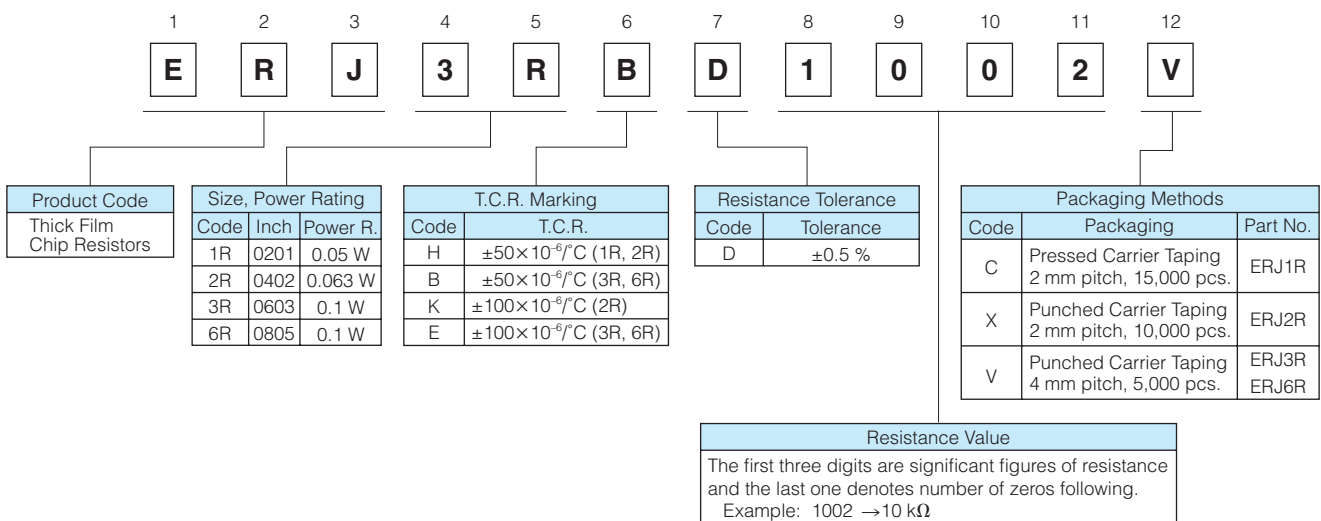
### Features

- Small size and lightweight
- High reliability  
Metal glaze thick film resistive element and three layers of electrodes
- Compatible with placement machines  
Taping packaging available
- Suitable for both reflow and flow soldering
- Low Resistance Tolerance  
ERJXG, 1G, 2R, 3E, 6E, 8E, 14, 12, 1T Type : ±1 %  
ERJ1R, 2R, 3R, 6R Type : ±0.5 %
- Reference Standards  
IEC 60115-8, JIS C 5201-8, EIAJ RC-2134B
- AEC-Q200 qualified (Exemption ERJXG, ERJ1R)
- RoHS compliant

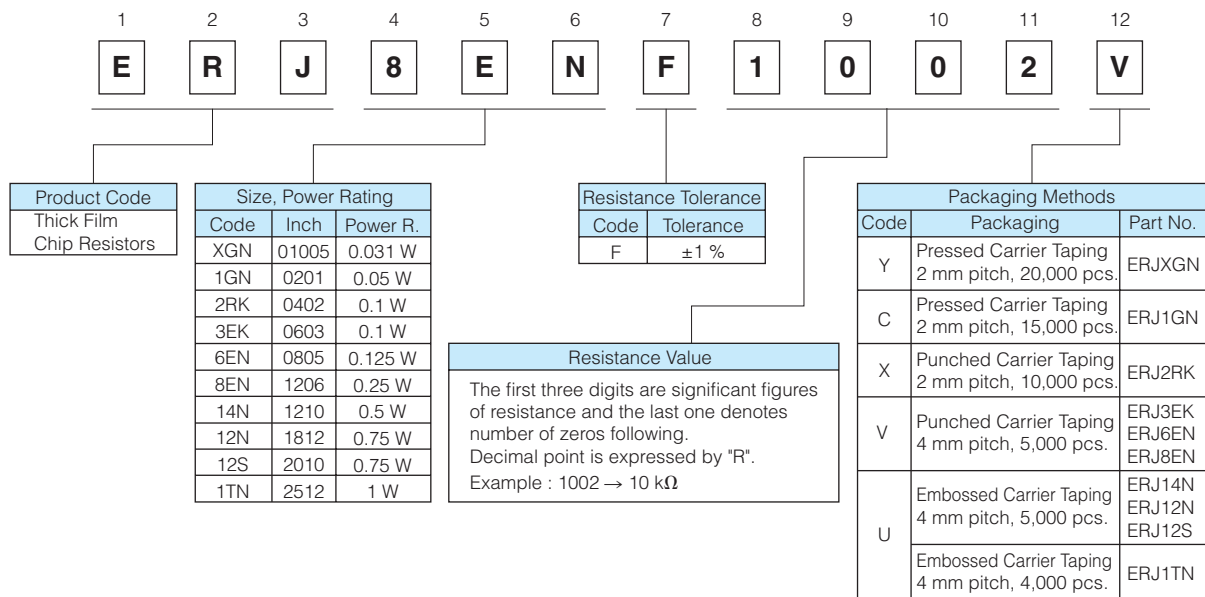
■ **As for Packaging Methods, Land Pattern, Soldering Conditions and Safety Precautions,**  
 Please see Data Files

### Explanation of Part Numbers

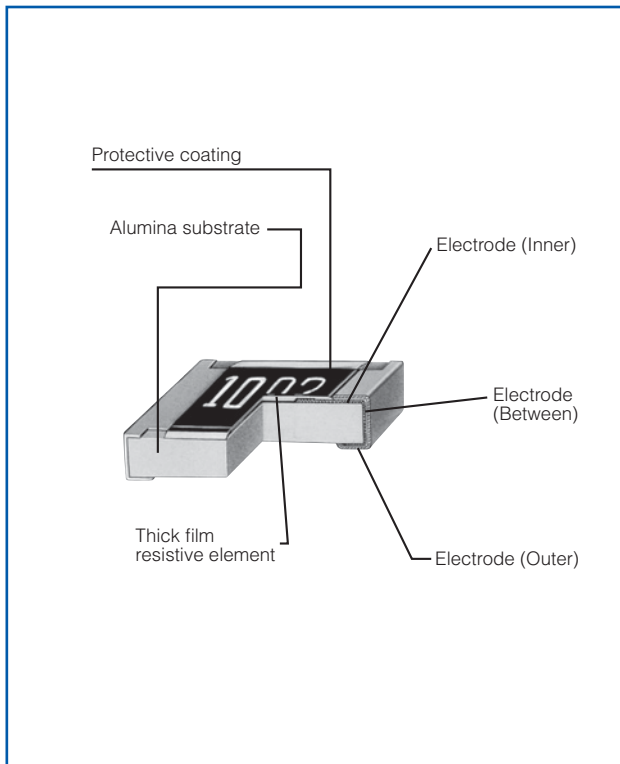
- ERJ1R, 2R, 3R, 6R Type, ±0.5 %



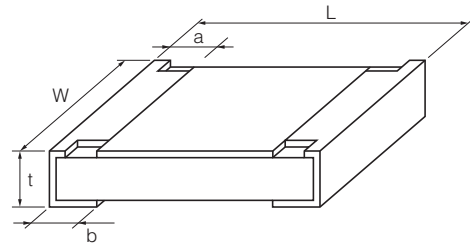
● ERJXG, 1G, 2R, 3E, 6E, 8E, 14, 12, 1T Type,  $\pm 1\%$



## Construction



## Dimensions in mm (not to scale)



Part No. (inch size)	Dimensions (mm)					Mass (Weight) [g/1000 pcs.]
	L	W	a	b	t	
ERJXG (01005)	0.40 $^{\pm 0.02}$	0.20 $^{\pm 0.02}$	0.10 $^{\pm 0.03}$	0.10 $^{\pm 0.03}$	0.13 $^{\pm 0.02}$	0.04
ERJ1G, 1R (0201)	0.60 $^{\pm 0.03}$	0.30 $^{\pm 0.03}$	0.10 $^{\pm 0.05}$	0.15 $^{\pm 0.05}$	0.23 $^{\pm 0.03}$	0.15
ERJ2R□ (0402)	1.00 $^{\pm 0.05}$	0.50 $^{\pm 0.05}$	0.20 $^{\pm 0.10}$	0.25 $^{\pm 0.05}$	0.35 $^{\pm 0.05}$	0.8
ERJ3R□ ERJ3EK (0603)	1.60 $^{\pm 0.15}$	0.80 $^{\pm 0.15}$	0.30 $^{\pm 0.20}$	0.30 $^{\pm 0.15}$	0.45 $^{\pm 0.10}$	2
ERJ6R□ ERJ6EN (0805)	2.00 $^{\pm 0.20}$	1.25 $^{\pm 0.10}$	0.40 $^{\pm 0.20}$	0.40 $^{\pm 0.20}$	0.60 $^{\pm 0.10}$	4
ERJ8EN (1206)	3.20 $^{\pm 0.05}$	1.60 $^{\pm 0.05}$	0.50 $^{\pm 0.20}$	0.50 $^{\pm 0.20}$	0.60 $^{\pm 0.10}$	10
ERJ14N (1210)	3.20 $^{\pm 0.20}$	2.50 $^{\pm 0.20}$	0.50 $^{\pm 0.20}$	0.50 $^{\pm 0.20}$	0.60 $^{\pm 0.10}$	16
ERJ12N (1812)	4.50 $^{\pm 0.20}$	3.20 $^{\pm 0.20}$	0.50 $^{\pm 0.20}$	0.50 $^{\pm 0.20}$	0.60 $^{\pm 0.10}$	27
ERJ12S (2010)	5.00 $^{\pm 0.20}$	2.50 $^{\pm 0.20}$	0.60 $^{\pm 0.20}$	0.60 $^{\pm 0.20}$	0.60 $^{\pm 0.10}$	27
ERJ1TN (2512)	6.40 $^{\pm 0.20}$	3.20 $^{\pm 0.20}$	0.65 $^{\pm 0.20}$	0.60 $^{\pm 0.20}$	0.60 $^{\pm 0.10}$	45

## Ratings

<±0.5 %>

Part No. (inch size)	Power Rating at 70 °C (W)	Limiting Element Voltage <sup>(1)</sup> (V)	Maximum Overload Voltage <sup>(2)</sup> (V)	Resistance Tolerance (%)	Resistance Range (Ω)	T.C.R. (×10 <sup>-6</sup> /°C)	Category Temperature Range (°C)
ERJ1RH (0201)	0.05	15	30	±0.5	1 k to 1 M (E24, E96)	±50	-55 to +125
ERJ2RH (0402)	0.063	50	100	±0.5	100 to 100 k (E24, E96)	±50	-55 to +125
ERJ2RK (0402)	0.063	50	100	±0.5	10 to 97.6 102 k to 1 M (E24, E96)	±100	-55 to +125
ERJ3RB (0603)	0.1	50	100	±0.5	100 to 100 k (E24, E96)	±50	-55 to +125
ERJ3RE (0603)	0.1	50	100	±0.5	10 to 97.6 102 k to 1 M (E24, E96)	±100	-55 to +125
ERJ6RB (0805)	0.1	150	200	±0.5	100 to 100 k (E24, E96)	±50	-55 to +125
ERJ6RE (0805)	0.1	150	200	±0.5	10 to 97.6 102 k to 1 M (E24, E96)	±100	-55 to +125

<±1 %>

Part No. (inch size)	Power Rating at 70 °C (W)	Limiting Element Voltage <sup>(1)</sup> (V)	Maximum Overload Voltage <sup>(2)</sup> (V)	Resistance Tolerance (%)	Resistance Range (Ω)	T.C.R. (×10 <sup>-6</sup> /°C)	Category Temperature Range (°C)
ERJXGN (01005)	0.031	15	30	±1	10 to 1 M (E24, E96)	<100 Ω : ±300 100 Ω ≤ : ±200	-55 to +125
ERJ1GN (0201)	0.05	25	50	±1	10 to 1 M <sup>(3)</sup> (E24, E96)	±200	-55 to +125
ERJ2RK (0402)	0.1	50	100	±1	10 to 1 M <sup>(3)</sup> (E24, E96)	±100	-55 to +155
ERJ3EK (0603)	0.1	75	150	±1	10 to 1 M (E24, E96)	±100	-55 to +155
ERJ6EN (0805)	0.125	150	200	±1	10 to 2.2 M (E24, E96)	±100	-55 to +155
ERJ8EN (1206)	0.25	200	400	±1	10 to 2.2 M (E24, E96)	±100	-55 to +155
ERJ14N (1210)	0.5	200	400	±1	10 to 1 M (E24, E96)	±100	-55 to +155
ERJ12N (1812)	0.75	200	500	±1	10 to 1 M (E24, E96)	±100	-55 to +155
ERJ12S (2010)	0.75	200	500	±1	10 to 1 M (E24, E96)	±100	-55 to +155
ERJ1TN (2512)	1	200	500	±1	10 to 1 M (E24, E96)	±100	-55 to +155

(1) Rated Continuous Working Voltage (RCWV) shall be determined from  $RCWV = \sqrt{\text{Power Rating} \times \text{Resistance Values}}$ , or Limiting Element Voltage listed above, whichever less.

(2) Overload (Short-time Overload) Test Voltage (SOTV) shall be determined from  $SOTV = 2.5$  (Only ERJ2RK ±1% = 2.0) × RCWV or max. Overload Voltage listed above whichever less.

(3) Please contact us when you need a type with a resistance of less than 10 Ω.

### 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.

