

Thick Film Chip Resistors

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



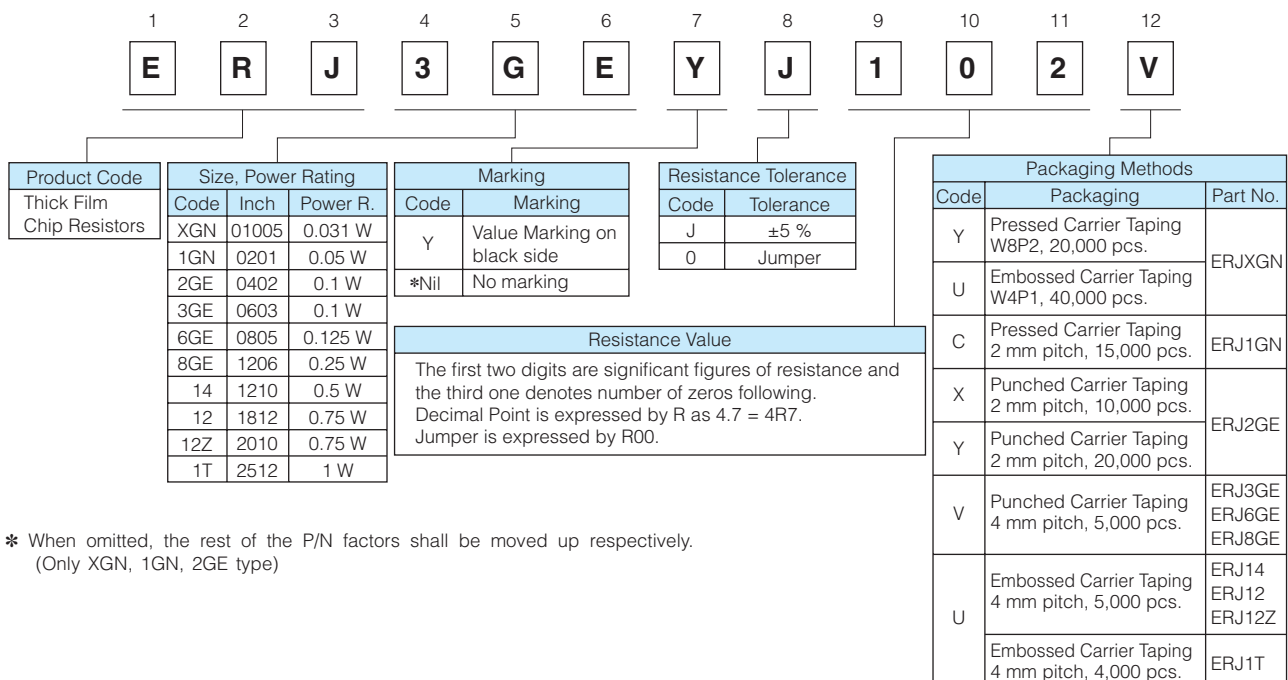
Features

- 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
- Reference Standards
IEC 60115-8, JIS C 5201-8, EIAJ RC-2134B
- AEC-Q200 qualified (Exemption ERJXG)
- RoHS compliant

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

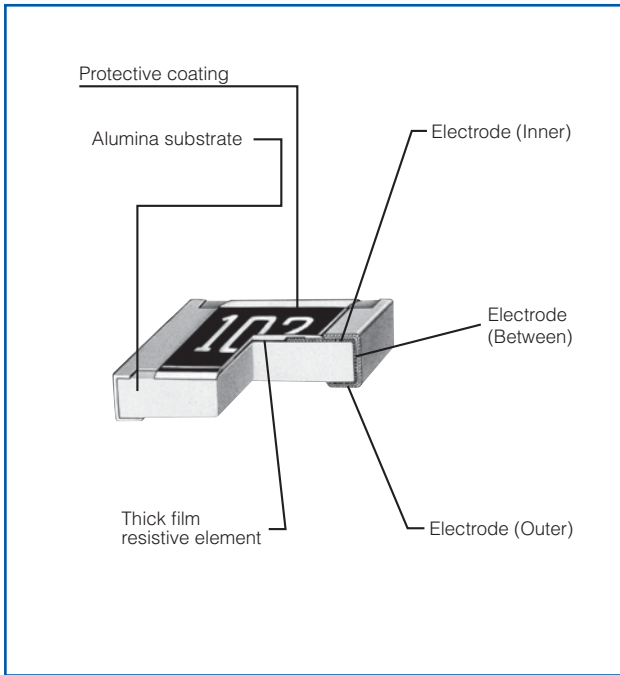
Explanation of Part Numbers

- ERJXGN, 1GN, 2GE, 3GE, 6GE, 8GE, 14, 12, 12Z, 1T Type, $\pm 5\%$

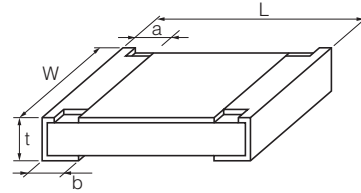


* When omitted, the rest of the P/N factors shall be moved up respectively.
(Only XGN, 1GN, 2GE type)

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 ^{±0.02}	0.20 ^{±0.02}	0.10 ^{±0.03}	0.10 ^{±0.03}	0.13 ^{±0.02}	0.04
ERJ1G (0201)	0.60 ^{±0.03}	0.30 ^{±0.03}	0.10 ^{±0.05}	0.15 ^{±0.05}	0.23 ^{±0.03}	0.15
ERJ2G (0402)	1.00 ^{±0.05}	0.50 ^{±0.05}	0.20 ^{±0.10}	0.25 ^{±0.05}	0.35 ^{±0.05}	0.8
ERJ3G (0603)	1.60 ^{±0.15}	0.80 ^{+0.15/-0.05}	0.30 ^{±0.20}	0.30 ^{±0.15}	0.45 ^{±0.10}	2
ERJ6G (0805)	2.00 ^{±0.20}	1.25 ^{±0.10}	0.40 ^{±0.20}	0.40 ^{±0.20}	0.60 ^{±0.10}	4
ERJ8G (1206)	3.20 ^{+0.05/-0.20}	1.60 ^{+0.05/-0.15}	0.50 ^{±0.20}	0.50 ^{±0.20}	0.60 ^{±0.10}	10
ERJ14 (1210)	3.20 ^{±0.20}	2.50 ^{±0.20}	0.50 ^{±0.20}	0.50 ^{±0.20}	0.60 ^{±0.10}	16
ERJ12 (1812)	4.50 ^{±0.20}	3.20 ^{±0.20}	0.50 ^{±0.20}	0.50 ^{±0.20}	0.60 ^{±0.10}	27
ERJ12Z (2010)	5.00 ^{±0.20}	2.50 ^{±0.20}	0.60 ^{±0.20}	0.60 ^{±0.20}	0.60 ^{±0.10}	27
ERJ1T (2512)	6.40 ^{±0.20}	3.20 ^{±0.20}	0.65 ^{±0.20}	0.60 ^{±0.20}	0.60 ^{±0.10}	45

Ratings

[For Resistor]

Part No. (inch size)	Power Rating at 70 °C (W)	Limiting Element Voltage ⁽¹⁾ (V)	Maximum Overload Voltage ⁽²⁾ (V)	Resistance Tolerance (%)	Resistance Range (Ω)	T.C.R. (×10 ⁻⁶ /°C)	Category Temperature Range (°C)
ERJXG (01005)	0.031	15	30	±5	4.7 to 1 M (E24)	<10 Ω: -100 to +600 10 Ω to 100 Ω: ±300 100 Ω <: ±200	-55 to +125
ERJ1G (0201)	0.05	25	50	±5	1 to 10 M (E24)	<10 Ω: -100 to +600	-55 to +125
ERJ2G (0402)	0.1	50	100	±5	1 to 10 M (E24)		-55 to +155
ERJ3G (0603)	0.1	75	150	±5	1 to 10 M (E24)	10 Ω to 1 M Ω: ±200	-55 to +155
ERJ6G (0805)	0.125	150	200	±5	1 to 10 M (E24)		-55 to +155
ERJ8G (1206)	0.25	200	400	±5	1 to 10 M (E24)		-55 to +155
ERJ14 (1210)	0.5	200	400	±5	1 to 10 M (E24)	1 M Ω <: -400 to +150	-55 to +155
ERJ12 (1812)	0.75	200	500	±5	1 to 10 M (E24)		-55 to +155
ERJ12Z (2010)	0.75	200	500	±5	1 to 10 M (E24)	-400 to +150	-55 to +155
ERJ1T (2512)	1	200	500	±5	1 to 1 M (E24)		-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.

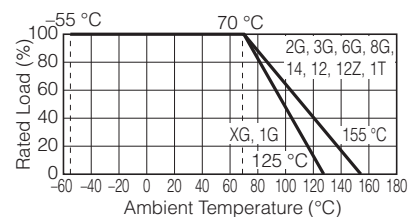
(2) Overload (Short-time Overload) Test Voltage (SOTV) shall be determined from $SOTV = 2.5$ (Only ERJ2G=2.0) × RCWV or max. Overload Voltage listed above whichever less.

[For Jumper]

Part No. (inch size)	Rated Current (A)	Maximum Overload Current (A)
ERJXG (01005)	0.5	1
ERJ1G (0201)		
ERJ2G (0402)		
ERJ3G (0603)	1	2
ERJ6G (0805)		
ERJ8G (1206)		
ERJ14 (1210)	2	4
ERJ12 (1812)		
ERJ12Z (2010)		
ERJ1T (2512)		

Power Derating Curve

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



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