

Thick Film Chip Resistors 01005, 0201, 0402, 0603, 0805, 1206, 1210, 1812, 2010, 2512

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

■ Packaging Methods, Land Pattern, Soldering Conditions and Safety Precautions

Please see Data Files

■ Explanation of Part Numbers

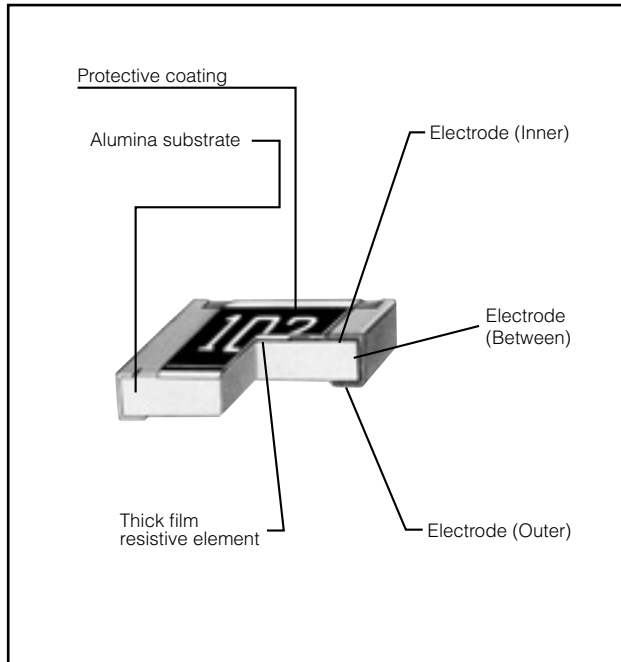
- ERJXGN, 1GN, 2GE, 3GE, 6GE, 8GE, 14, 12, 12Z, 1T Series, $\pm 5\%$ type

1	2	3	4	5	6	7	8	9	10	11	12
E	R	J	3	G	E	Y	J	1	0	2	V

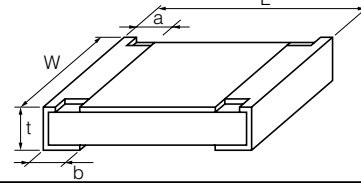
Product Code	Size, Power Rating		Marking		Resistance Tolerance		Packaging Methods				
Thick Film Chip Resistors	Type : inch	Power R.	Code	Marking	Code	Tolerance	Code	Packaging	Type		
	XGN : 01005	0.031 W					Y	Pressed Carrier Taping W8P2, 20,000 pcs.	ERJXGN		
	1GN : 0201	0.05 W	Y	Value Marking on black side	J	$\pm 5\%$	U	Embossed Carrier Taping W4P1, 40,000 pcs.			
	2GE : 0402	0.1 W	*Nil	No marking	0	Jumper	C	Pressed Carrier Taping 2 mm pitch, 15,000 pcs.	ERJ1GN		
	3GE : 0603	0.1 W	Resistance Value The first two digits are significant figures of resistance and the third one denotes number of zeros following. Decimal Point is expressed by R as 4.7 = 4R7. Jumper is expressed by R00.				X	Punched Carrier Taping 2 mm pitch, 10,000 pcs.	ERJ2GE		
	6GE : 0805	0.125 W					Y	Punched Carrier Taping 2 mm pitch, 20,000 pcs.			
	8GE : 1206	0.25 W					V	Punched Carrier Taping 4 mm pitch, 5,000 pcs.	ERJ3GE ERJ6GE ERJ8GE		
	14 : 1210	0.5 W					U	Embossed Carrier Taping 4 mm pitch, 5,000 pcs.	ERJ14 ERJ12 ERJ12Z		
	12 : 1812	0.75 W						Embossed Carrier Taping 4 mm pitch, 4,000 pcs.	ERJ1T		
	12Z : 2010	0.75 W									
	1T : 2512	1 W									

* 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)



Type (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 (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
ERJ2G (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
ERJ3G (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
ERJ6G (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
ERJ8G (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
ERJ14 (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
ERJ12 (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
ERJ12Z (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
ERJ1T (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

<For Resistor>

Type (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. ($\times 10^{-6}/^{\circ}\text{C}$)	Category Temperature Range ($^{\circ}\text{C}$)
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)		-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)	10 Ω to 1 M Ω : ± 200	-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)		-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 $\text{RCWV} = \sqrt{\text{Power Rating} \times \text{Resistance Values}}$, or Limiting Element Voltage listed above, whichever less.

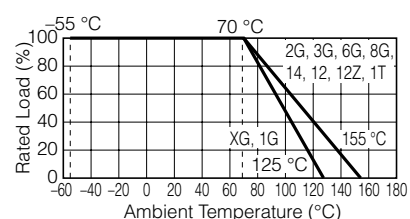
(2) Overload (Short-time Overload) Test Voltage (SOTV) shall be determined from $\text{SOTV} = 2.5$ (Only ERJ2G=2.0) $\times$ Power Rating or max. Overload Voltage listed above whichever less.

<For Jumper>

Type (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.



Design and specifications are each subject to change without notice. Ask factory for the current technical specifications before purchase and/or use.
Should a safety concern arise regarding this product, please be sure to contact us immediately.