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, ±5 %

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

Thick Film Chip Resistors

Size, Power Rating

Code	Inch	Power R.
XGN	01005	0.031 W
1GN	0201	0.05 W
2GE	0402	0.1 W
3GE	0603	0.1 W
6GE	0805	0.125 W
8GE	1206	0.25 W
14	1210	0.5 W
12	1812	0.75 W
12Z	2010	0.75 W
1T	2512	1 W

Marking

Code	Marking
Y	Value Marking on black side
*Nil	No marking

Resistance Tolerance

Code	Tolerance
J	±5 %
0	Jumper

Resistance Value

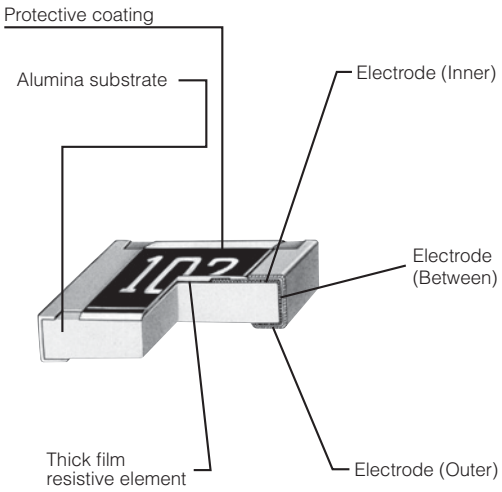
The first two digits are significant figures of resistance and the third one denotes number of zeros following.
Decimal Point is expressed by R as 4.7 = 4R7.
Jumper is expressed by R00.

Packaging Methods

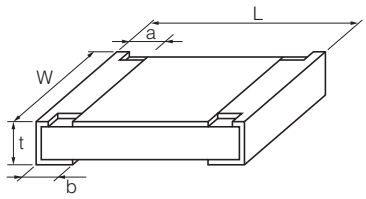
Code	Packaging	Part No.
Y	Pressed Carrier Taping W8P2, 20,000 pcs.	ERJXGN
U	Embossed Carrier Taping W4P1, 40,000 pcs.	
C	Pressed Carrier Taping 2 mm pitch, 15,000 pcs.	ERJ1GN
X	Punched Carrier Taping 2 mm pitch, 10,000 pcs.	ERJ2GE
Y	Punched Carrier Taping 2 mm pitch, 20,000 pcs.	
V	Punched Carrier Taping 4 mm pitch, 5,000 pcs.	ERJ3GE ERJ6GE ERJ8GE
U	Embossed Carrier Taping 4 mm pitch, 5,000 pcs.	ERJ14 ERJ12 ERJ12Z
	Embossed Carrier Taping 4 mm pitch, 4,000 pcs.	ERJ1T

✻ 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)	$0.40^{\pm0.02}$	$0.20^{\pm0.02}$	$0.10^{\pm0.03}$	$0.10^{\pm0.03}$	$0.13^{\pm0.02}$	0.04
ERJ1G (0201)	$0.60^{\pm0.03}$	$0.30^{\pm0.03}$	$0.10^{\pm0.05}$	$0.15^{\pm0.05}$	$0.23^{\pm0.03}$	0.15
ERJ2G (0402)	$1.00^{\pm0.05}$	$0.50^{\pm0.05}$	$0.20^{\pm0.10}$	$0.25^{\pm0.05}$	$0.35^{\pm0.05}$	0.8
ERJ3G (0603)	$1.60^{\pm0.15}$	$0.80^{+0.15}_{-0.05}$	$0.30^{\pm0.20}$	$0.30^{\pm0.15}$	$0.45^{\pm0.10}$	2
ERJ6G (0805)	$2.00^{\pm0.20}$	$1.25^{\pm0.10}$	$0.40^{\pm0.20}$	$0.40^{\pm0.20}$	$0.60^{\pm0.10}$	4
ERJ8G (1206)	$3.20^{+0.05}_{-0.20}$	$1.60^{+0.05}_{-0.15}$	$0.50^{\pm0.20}$	$0.50^{\pm0.20}$	$0.60^{\pm0.10}$	10
ERJ14 (1210)	$3.20^{\pm0.20}$	$2.50^{\pm0.20}$	$0.50^{\pm0.20}$	$0.50^{\pm0.20}$	$0.60^{\pm0.10}$	16
ERJ12 (1812)	$4.50^{\pm0.20}$	$3.20^{\pm0.20}$	$0.50^{\pm0.20}$	$0.50^{\pm0.20}$	$0.60^{\pm0.10}$	27
ERJ12Z (2010)	$5.00^{\pm0.20}$	$2.50^{\pm0.20}$	$0.60^{\pm0.20}$	$0.60^{\pm0.20}$	$0.60^{\pm0.10}$	27
ERJ1T (2512)	$6.40^{\pm0.20}$	$3.20^{\pm0.20}$	$0.65^{\pm0.20}$	$0.60^{\pm0.20}$	$0.60^{\pm0.10}$	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. ($\times10^{-6}$/°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 10 Ω to 1 MΩ: ±200 1 MΩ<: −400 to +150	−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)		−55 to +155
ERJ14 (1210)	0.5	200	400	±5	1 to 10 M (E24)		−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

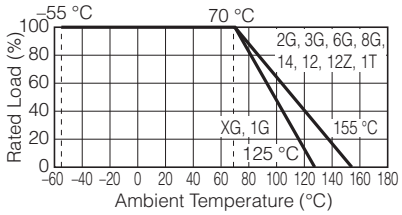
(1) Rated Continuous Working Voltage (RCWV) shall be determined from RCWV=$\sqrt{\text{Power Rating} \times \text{Resistance Values}}$, or Limiting Element Voltage listed above, whichever less.
(2) Overload (Short-time Overload) Test Voltage (SOTV) shall be determined from SOTV=2.5 (Only ERJ2G=2.0) × 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)	1	2
ERJ3G (0603)		
ERJ6G (0805)	2	4
ERJ8G (1206)		
ERJ14 (1210)		
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.



Mouser Electronics

Authorized Distributor

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Panasonic:

ERJ-6GEYJ152V ERJ-12ZYJ390U ERJ-12ZYJ100U ERJ-14YJ331U ERJ-1TY0R00U ERJ-1TYJ910U ERJ-12ZYJ330U ERJ-14YJ1R6U ERJ-12ZYJ221U ERJ-12ZYJ4R7U ERJ-1TYJ301U ERJ-1TYJ560U ERJ-14YJ181U ERJ-12ZYJ473U ERJ-1TYJ133U ERJ-1TYJ821U ERJ-14YJ472U ERJ-1TYJ131U ERJ-6GEYJ221V ERJ-8GEYJ683V ERJ-14YJ151U ERJ-2GEJ225X ERJ-1TYJ130U ERJ-3GEYJ113V ERJ-3GEYJ622V ERJ-3GEYJ7R5V ERJ-3GEYJ563V ERJ-3GEYJ564V ERJ-3GEYJ565V ERJ-3GEYJ6R2V ERJ-3GEYJ6R8V ERJ-3GEYJ515V ERJ-3GEYJ621V ERJ-3GEYJ623V ERJ-3GEYJ624V ERJ-3GEYJ625V ERJ-3GEYJ681V ERJ-3GEYJ683V ERJ-3GEYJ684V ERJ-3GEYJ395V ERJ-3GEYJ620V ERJ-3GEYJ430V ERJ-3GEYJ432V ERJ-3GEYJ433V ERJ-3GEYJ434V ERJ-3GEYJ435V ERJ-3GEYJ560V ERJ-3GEYJ475V ERJ-3GEYJ5R1V ERJ-3GEYJ5R6V ERJ-3GEYJ685V ERJ-3GEYJ824V ERJ-3GEYJ755V ERJ-3GEYJ8R2V ERJ-3GEYJ825V ERJ-3GEYJ9R1V ERJ-3GEYJ911V ERJ-3GEYJ912V ERJ-3GEYJ913V ERJ-3GEYJ914V ERJ-3GEYJ915V ERJ-3GEYJ2R0V ERJ-3GEYJ163V ERJ-3GEYJ164V ERJ-3GEYJ165V ERJ-3GEYJ181V ERJ-3GEYJ182V ERJ-3GEYJ2R4V ERJ-3GEYJ2R7V ERJ-3GEYJ204V ERJ-3GEYJ184V ERJ-1GEJ565C ERJ-3GEYJ115V ERJ-3GEYJ120V ERJ-3GEYJ123V ERJ-3GEYJ124V ERJ-3GEYJ125V ERJ-3GEYJ162V ERJ-3GEYJ133V ERJ-3GEYJ134V ERJ-3GEYJ135V ERJ-3GEYJ150V ERJ-3GEYJ153V ERJ-3GEYJ154V ERJ-3GEYJ155V ERJ-3GEYJ205V ERJ-3GEYJ304V ERJ-3GEYJ305V ERJ-3GEYJ333V ERJ-3GEYJ335V ERJ-3GEYJ361V ERJ-3GEYJ364V ERJ-3GEYJ365V ERJ-3GEYJ390V ERJ-3GEYJ392V ERJ-3GEYJ334V ERJ-3GEYJ223V ERJ-3GEYJ225V ERJ-3GEYJ240V ERJ-3GEYJ243V