

High Power Chip Resistors / Wide Terminal Type



Type: **ERJ A1, B1, B2, B3**

Features

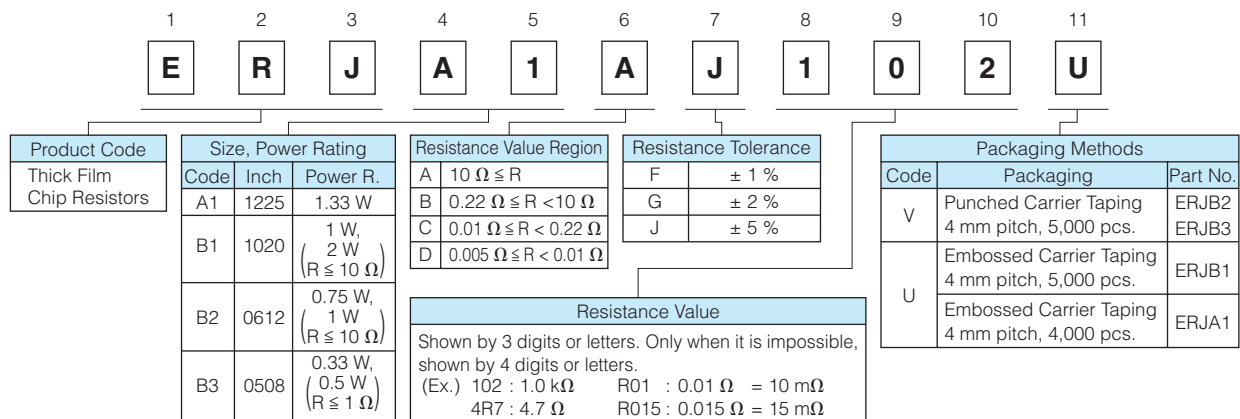
- High solder-joint reliability by wide terminal construction
- Excellent heat dissipation characteristics by wide terminal construction
- AEC-Q200 qualified
- RoHS compliant

Recommended Applications

- Automotive electronic circuits including ECUs (Electrical control unit), anti-lock braking systems and air-bag systems
- Current sensing for power supply circuits in a variety of equipment

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

Explanation of Part Numbers

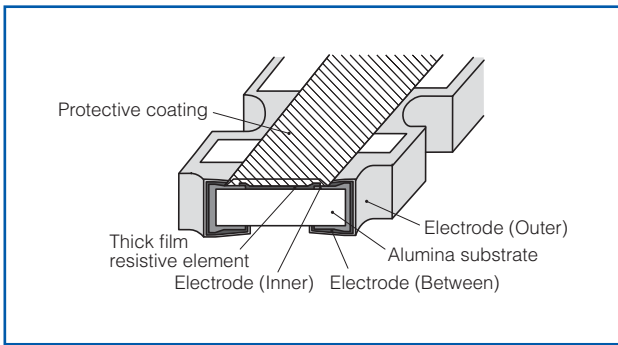


Ratings

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)
ERJA1 (1225)	1.33	200	400	±1	100 m to 10 k (E24)	R < 100 mΩ : ±350	-55 to +155
				±2, ±5	10 m to 10 k (E24)	100 mΩ ≤ R : ±100 (±1%) ±200 (±2%, ±5%)	
ERJB1 (1020)	1 2(R ≤ 10 Ω)	200	400	±1, ±2, ±5	10 m to 10 k (E24)	R < 22 mΩ : ±350	-55 to +155
						22 mΩ ≤ R < 47 mΩ : ±200	
ERJB2 (0612)	0.75 1(R ≤ 10 Ω)	200	400	±1, ±2	10 m to 1 M (E24)	47 mΩ ≤ R < 100 mΩ : ±150 (±1%) ±200 (±2%, ±5%)	-55 to +155
						100 mΩ ≤ R : ±100 (±1%) ±200 (±2%, ±5%)	
ERJB3 (0508)	0.33 0.5(R ≤ 1 Ω)	150	200	±1, ±2, ±5	20 m to 10 (E24)	R < 22 mΩ : 0 to +300	-55 to +155
						22 mΩ ≤ R < 47 mΩ : 0 to +200	
ERJB3 (0508)	0.33 0.5(R ≤ 1 Ω)	150	200	±1, ±2, ±5	20 m to 10 (E24)	47 mΩ ≤ R < 100 mΩ : 0 to +150	-55 to +155
						100 mΩ ≤ R < 220 mΩ : 0 to +150 (±1%) 0 to +200 (±2%, ±5%)	
ERJB3 (0508)	0.33 0.5(R ≤ 1 Ω)	150	200	±1, ±2, ±5	20 m to 10 (E24)	220 mΩ ≤ R : ±100 (±1%) ±200 (±2%, ±5%)	-55 to +155
						R < 47 mΩ : 0 to +300	
ERJB3 (0508)	0.33 0.5(R ≤ 1 Ω)	150	200	±1, ±2, ±5	20 m to 10 (E24)	47 mΩ ≤ R ≤ 1 Ω : 0 to +200	-55 to +155
						1 Ω < R : ±100 (±1%) ±200 (±2%, ±5%)	

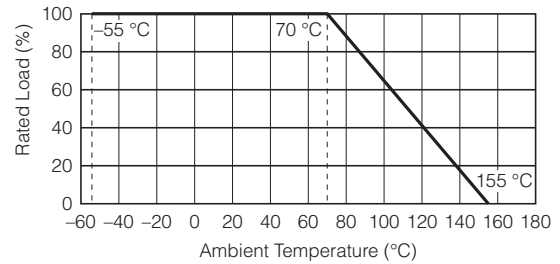
(1) Rated Continuous Working Voltage (RCWW) shall be determined from RCWW=√Power Rating × Resistance Values, or Limiting Element Voltage listed above, whichever less.
 (2) Overload (Short-time Overload) Test Voltage (SOTV) shall be determined from SOTV=2.5 × RCWW or max. Overload Voltage listed above whichever less.

Construction (Example : ERJA1 type)



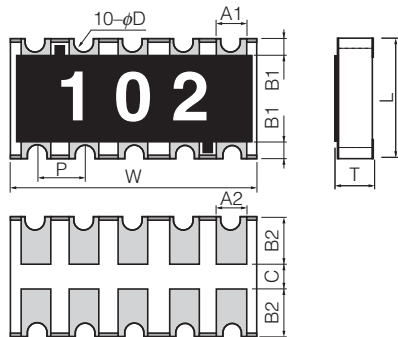
Power Derating Curve

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



Dimensions in mm (not to scale)

ERJA1 type

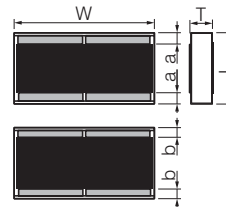


Mass (Weight) [1000 pcs.] : 40 g

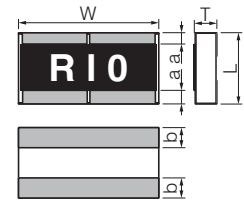
Dimensions (mm)	L	W	T	A ₁	B ₁
	3.20±0.20	6.40±0.20	0.55±0.10	0.70±0.20	0.45±0.20
Dimensions (mm)	A ₂	B ₂	P	ϕD	C
	0.70±0.20	1.25±0.15	1.27±0.10	0.30 ^{+0.10} _{-0.20}	0.4 min.

ERJB2 type

(R < 10 mΩ)



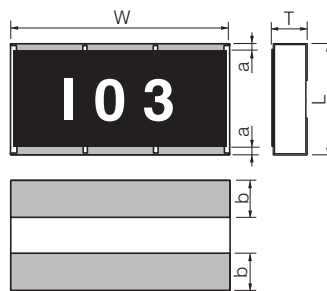
(10 mΩ ≤ R ≤ 1 MΩ)



Mass (Weight) [1000 pcs.] : 11 g

Dimensions (mm)	L	W	T	a	b
5 mΩ ≤ R < 10 mΩ	1.60±0.15	3.20±0.20	0.65±0.15	0.30±0.20	0.30±0.20
10 mΩ ≤ R < 220 mΩ			0.55±0.15		
220 mΩ ≤ R ≤ 1 MΩ			0.25±0.20	0.50±0.20	

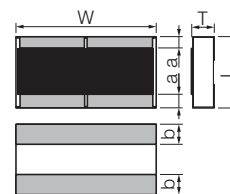
ERJB1 type



Mass (Weight) [1000 pcs.] : 27 g

Dimensions (mm)	L	W	T	a	b
	2.50±0.20	5.00±0.20	0.55±0.20	0.25±0.20	0.90±0.20

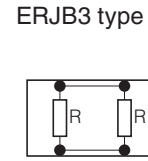
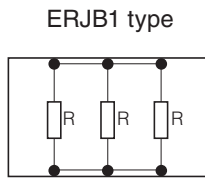
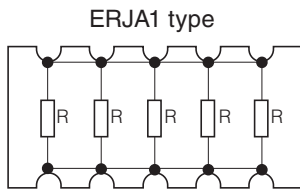
ERJB3 type



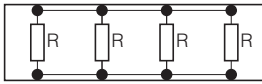
Mass (Weight) [1000 pcs.] : 4.8 g

Dimensions (mm)	L	W	T	a	b
	1.25±0.10	2.00±0.15	0.50±0.10	0.25±0.20	0.40±0.20

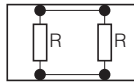
Circuit Configuration



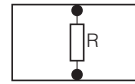
< Less than 10 mΩ >



ERJB2 type
< Low resistance zone >



< High resistance zone >



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