

## High Power Chip Resistors / Wide Terminal Type



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

### Features

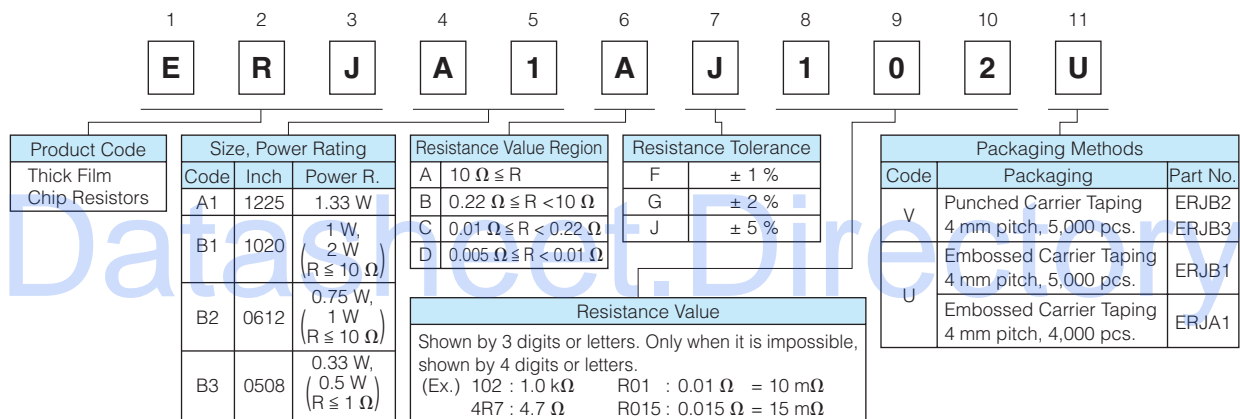
- High solder-joint reliability by wide terminal construction
- Excellent heat dissipation characteristics by wide terminal construction
- AEC-Q200 qualified
- RoHS compliant

### 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

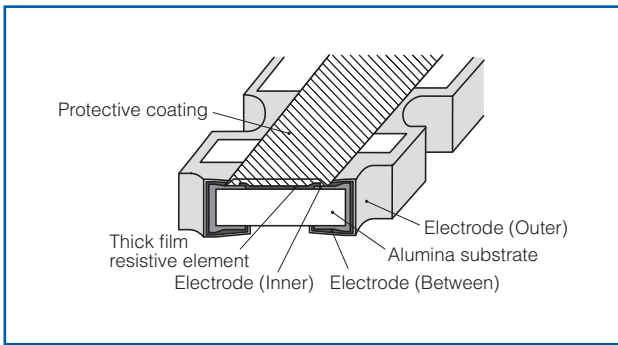


### Ratings

Part No. (inch size)	Power Rating at 70 °C (W)	Limiting Element Voltage <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)
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	
						47 mΩ ≤ R < 100 mΩ : 0 to +150	
						100 mΩ ≤ R < 220 mΩ : 0 to +150 (±1%) 0 to +200 (±2%, ±5%)	
						220 mΩ ≤ R : ±100 (±1%) ±200 (±2%, ±5%)	
						R < 47 mΩ : 0 to +300	
						47 mΩ ≤ R ≤ 1 Ω : 0 to +200	
						1 Ω < R : ±100 (±1%) ±200 (±2%, ±5%)	

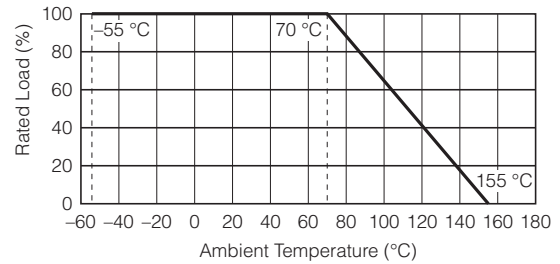
(1) Rated Continuous Working Voltage (RCWW) shall be determined from RCWW=√Power Rating × Resistance Values, or Limiting Element Voltage listed above, whichever less.  
 (2) Overload (Short-time Overload) Test Voltage (SOTV) shall be determined from SOTV=2.5 × RCWW or max. Overload Voltage listed above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

## Construction (Example : ERJA1 type)



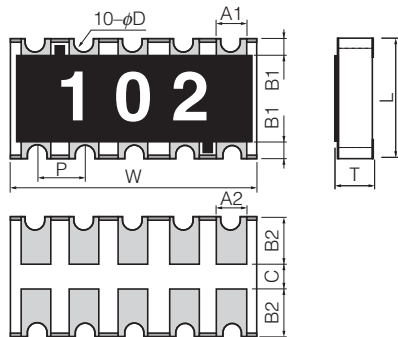
## Power Derating Curve

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

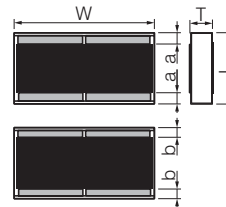


Mass (Weight) [1000 pcs.] : 40 g

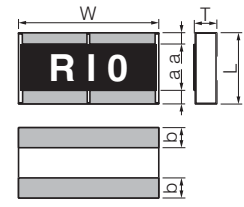
Dimensions (mm)	L	W	T	A <sub>1</sub>	B <sub>1</sub>
	3.20±0.20	6.40±0.20	0.55±0.10	0.70±0.20	0.45±0.20
Dimensions (mm)	A <sub>2</sub>	B <sub>2</sub>	P	φD	C
	0.70±0.20	1.25±0.15	1.27±0.10	0.30 <sup>+0.10</sup> <sub>-0.20</sub>	0.4 min.

### ERJB2 type

( R < 10 mΩ )



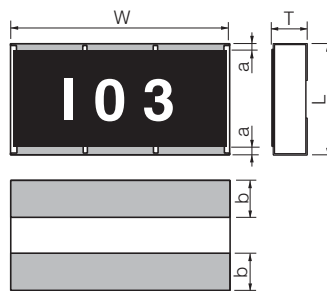
( 10 mΩ ≤ R ≤ 1 MΩ )



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	

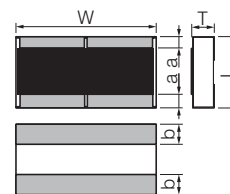
### ERJB1 type



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

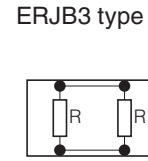
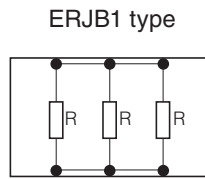
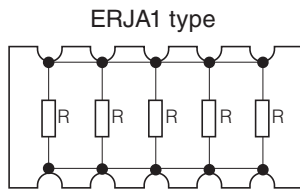
### ERJB3 type



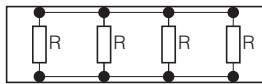
Mass (Weight) [1000 pcs.] : 4.8 g

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

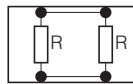
## Circuit Configuration



< Less than 10 mΩ >



ERJB2 type  
< Low resistance zone >



< High resistance zone >

