

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 breaking 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

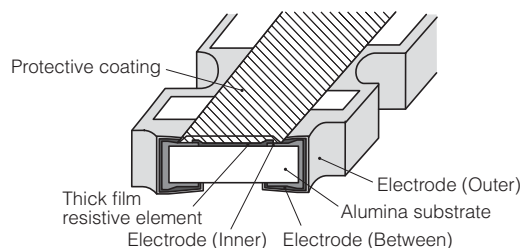
1		2		3		4		5		6		7		8		9		10		11	
E		R		J		A		1		A		J		1		0		2		U	
Product Code		Size, Power Rating			Resistance Value Region			Resistance Tolerance			Packaging Methods										
Thick Film Chip Resistors		Code	Inch	Power R.	A	10 Ω ≤ R			F	± 1 %		CodePackagingPart No. V Punched Carrier Taping 4 mm pitch, 5,000 pcs. ERJB2 ERJB3 U Embossed Carrier Taping 4 mm pitch, 5,000 pcs. ERJB1 Embossed Carrier Taping 4 mm pitch, 4,000 pcs. ERJA1									
		A1	1225	1.33 W	B	0.22 Ω ≤ R < 10 Ω			G	± 2 %											
		B1	1020	1 W, 2 W (R ≤ 10 Ω)	C	0.01 Ω ≤ R < 0.22 Ω			J	± 5 %											
		B2	0612	0.75 W, 1 W (R ≤ 10 Ω)	D	0.005 Ω ≤ R < 0.01 Ω			Resistance Value Shown by 3 digits or letters. Only when it is impossible, shown by 4 digits or letters. (Ex.) 102 : 1.0 kΩ R01 : 0.01 Ω = 10 mΩ 4R7 : 4.7 Ω R015 : 0.015 Ω = 15 mΩ												
		B3	0508	0.33 W, 0.5 W (R ≤ 1 Ω)																	

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 ±2, ±5	100 m to 10 k (E24) 10 m to 10 k (E24)	R < 100 mΩ : ±350 100 mΩ ≤ R : ±100 (±1%) ±200 (±2%, ±5%)	-55 to +155
ERJB1 (1020)	1 2(R ≤ 10 Ω)	200	400	±1, ±2, ±5	10 m to 10 k (E24)	R < 22 mΩ : ±350 22 mΩ ≤ R < 47 mΩ : ±200 47 mΩ ≤ R < 100 mΩ : ±150 (±1%) ±200 (±2%, ±5%) 100 mΩ ≤ R : ±100 (±1%) ±200 (±2%, ±5%)	-55 to +155
ERJB2 (0612)	0.75 1(R ≤ 10 Ω)	200	400	±1, ±2 ±5	10 m to 1 M (E24) 5 m to 1 M (5 m to 9 m : 1mΩ step) 10 m to 1 M : E24	R < 22 mΩ : 0 to +300 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%)	-55 to +155
ERJB3 (0508)	0.33 0.5(R ≤ 1 Ω)	150	200	±1, ±2, ±5	20 m to 10 (E24)	R < 47 mΩ : 0 to +300 47 mΩ ≤ R ≤ 1 Ω : 0 to +200 1 Ω < R : ±100 (±1%) ±200 (±2%, ±5%)	-55 to +155

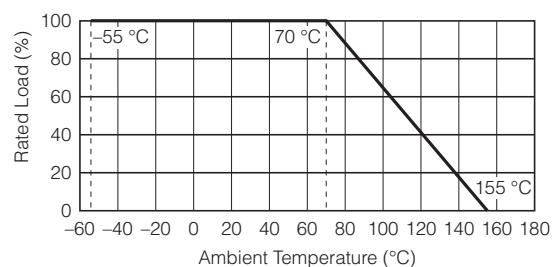
(1) Rated Continuous Working Voltage (RCWW) shall be determined from $RCWW = \sqrt{\text{Power Rating} \times \text{Resistance Values}}$, or Limiting Element Voltage listed above, whichever less.
(2) Overload (Short-time Overload) Test Voltage (SOTV) shall be determined from $SOTV = 2.5 \times RCWW$ or max. Overload Voltage listed above whichever less.

Construction (Example : ERJA1 type)



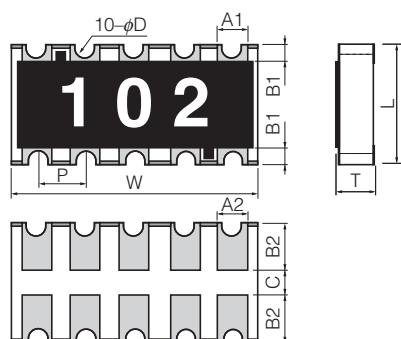
Power Derating Curve

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

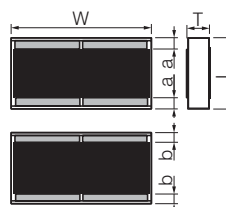


Mass (Weight) [1000 pcs.] : 40 g

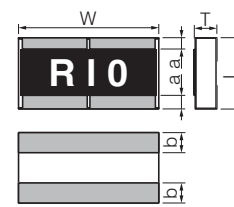
Dimensions (mm)	L	W	T	A ₁	B ₁
	3.20±0.20	6.40±0.20	0.55±0.10	0.70±0.20	0.45±0.20
Dimensions (mm)	A ₂	B ₂	P	φD	C
	0.70±0.20	1.25±0.15	1.27±0.10	0.30 ^{+0.10} _{-0.20}	0.4 min.

ERJB2 type

(R < 10 mΩ)



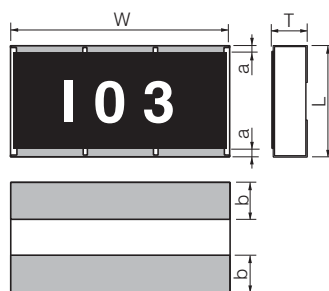
(10 mΩ ≤ R ≤ 1 MΩ)



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	0.25±0.20	0.50±0.20
220 mΩ ≤ R ≤ 1 MΩ					

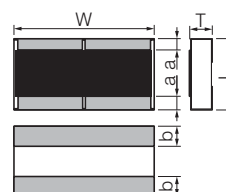
ERJB1 type



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

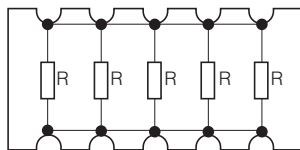


Mass (Weight) [1000 pcs.] : 4.8 g

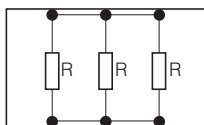
Dimensions (mm)	L	W	T	a	b
	1.25±0.10	2.00±0.15	0.50±0.10	0.25±0.20	0.40±0.20

Circuit Configuration

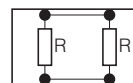
ERJA1 type



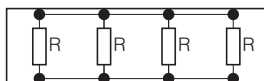
ERJB1 type



ERJB3 type

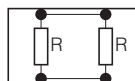


< Less than 10 mΩ >

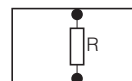


ERJB2 type

< Low resistance zone >



< High resistance zone >



Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Panasonic:

[ERJ-A1AJ100U](#) [ERJ-A1BJ2R7U](#) [ERJ-A1CGR022U](#) [ERJ-A1CGR10U](#) [ERJ-B1BF1R0U](#) [ERJ-B1BF1R1U](#) [ERJ-B1BF1R2U](#) [ERJ-B1BF1R3U](#) [ERJ-B1BF1R5U](#) [ERJ-B1BF1R6U](#) [ERJ-B1BF1R8U](#) [ERJ-B1BF2R0U](#) [ERJ-B1BF2R2U](#) [ERJ-B1BF2R4U](#) [ERJ-B1BF2R7U](#) [ERJ-B1BF3R0U](#) [ERJ-B1BF3R3U](#) [ERJ-B1BF3R6U](#) [ERJ-B1BF3R9U](#) [ERJ-B1BF4R3U](#) [ERJ-B1BF4R7U](#) [ERJ-B1BF5R1U](#) [ERJ-B1BF5R6U](#) [ERJ-B1BF6R2U](#) [ERJ-B1BF6R8U](#) [ERJ-B1BF7R5U](#) [ERJ-B1BF8R2U](#) [ERJ-B1BF9R1U](#) [ERJ-B1BFR22U](#) [ERJ-B1BFR24U](#) [ERJ-B1BFR27U](#) [ERJ-B1BFR30U](#) [ERJ-B1BFR33U](#) [ERJ-B1BFR36U](#) [ERJ-B1BFR39U](#) [ERJ-B1BFR43U](#) [ERJ-B1BFR47U](#) [ERJ-B1BFR51U](#) [ERJ-B1BFR56U](#) [ERJ-B1BFR62U](#) [ERJ-B1BFR68U](#) [ERJ-B1BFR75U](#) [ERJ-B1BFR82U](#) [ERJ-B1BFR91U](#) [ERJ-B1AF121U](#) [ERJ-A1AF430U](#) [ERJ-A1BF7R5U](#) [ERJ-B1AF300U](#) [ERJ-B1AF390U](#) [ERJ-B1AF750U](#) [ERJ-B1CFR02U](#) [ERJ-B2AF513V](#) [ERJ-A1AF102U](#) [ERJ-B1AF102U](#) [ERJ-B1CFR20U](#) [ERJ-B2CFR02V](#) [ERJ-B3AF121U](#) [ERJ-B3AF390U](#) [ERJ-B3AF750U](#) [ERJ-B3AJ100U](#) [ERJ-B3AJ101U](#) [ERJ-B3AJ102U](#) [ERJ-B3AJ103U](#) [ERJ-B3AJ110U](#) [ERJ-B3AJ111U](#) [ERJ-B3AJ120U](#) [ERJ-B3AJ121U](#) [ERJ-B3AJ122U](#) [ERJ-B3AJ130U](#) [ERJ-B3AJ131U](#) [ERJ-B3AJ150U](#) [ERJ-B3AJ151U](#) [ERJ-B3AJ152U](#) [ERJ-B3AJ160U](#) [ERJ-B3AJ161U](#) [ERJ-B3AJ180U](#) [ERJ-B3AJ181U](#) [ERJ-B3AJ182U](#) [ERJ-B3AJ200U](#) [ERJ-B3AJ201U](#) [ERJ-B3AJ220U](#) [ERJ-B3AJ221U](#) [ERJ-B3AJ222U](#) [ERJ-B3AJ240U](#) [ERJ-B3AJ241U](#) [ERJ-B3AJ270U](#) [ERJ-B3AJ271U](#) [ERJ-B3AJ272U](#) [ERJ-B3AJ300U](#) [ERJ-B3AJ301U](#) [ERJ-B3AJ330U](#) [ERJ-B3AJ331U](#) [ERJ-B3AJ332U](#) [ERJ-B3AJ360U](#) [ERJ-B3AJ361U](#) [ERJ-B3AJ390U](#) [ERJ-B3AJ391U](#) [ERJ-B3AJ392U](#) [ERJ-B3AJ430U](#) [ERJ-B3AJ431U](#)