Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832
Email & Skype: info@chipsmall.com Web: www.chipsmall.com
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

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

Thick Film Chip Resistors

Size, Power Rating

Code	Inch	Power R.
A1	1225	1.33 W
B1	1020	1 W, (2 W R ≦ 10 Ω)
B2	0612	0.75 W, (1 W R ≦ 10 Ω)
B3	0508	0.33 W, (0.5 W R ≦ 1 Ω)

Resistance Value Region

A	10 Ω ≦ R
B	0.22 Ω ≦ R <10 Ω
C	0.01 Ω ≦ R < 0.22 Ω
D	0.005 Ω ≦ R < 0.01 Ω

Resistance Tolerance

F	± 1 %
G	± 2 %
J	± 5 %

Packaging Methods

Code	Packaging	Part 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

Resistance Value

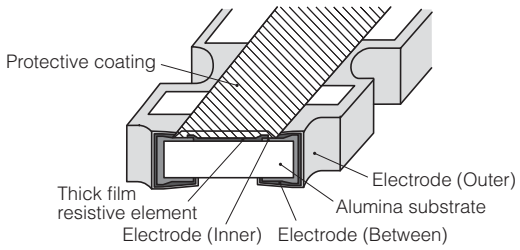
Shown by 3 digits or letters. Only when it is impossible, shown by 4 digits or letters.
(Ex.) 102 : 1.0 kΩ R01 : 0.01 Ω = 10 mΩ
4R7 : 4.7 Ω R015 : 0.015 Ω = 15 mΩ

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 : ±350 100 mΩ ≦ R : ±100 (±1%) ±200 (±2%, ±5%)	–55 to +155
				±2, ±5	10 m to 10 k (E24)		
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	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
				±5	5 m to 1 M (5 m to 9 m : 1mΩ step; 10 m to 1 M : E24)		
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

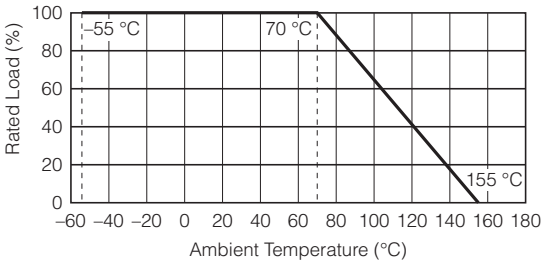
(1) Rated Continuous Working Voltage (RCWV) shall be determined from RCWV=$\sqrt{\text{Power Rating} \times \text{Resistance Values}}$, or Limiting Element Voltage listed above, whichever less.
(2) Overload (Short-time Overload) Test Voltage (SOTV) shall be determined from SOTV=2.5 × RCWV or max. Overload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

Construction (Example : ERJA1 type)



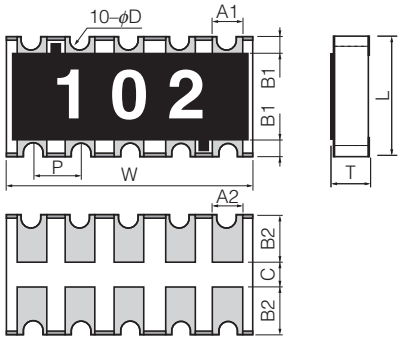
Power Derating Curve

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



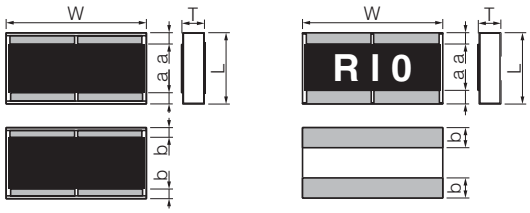
Mass (Weight) [1000 pcs.] : 40 g

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

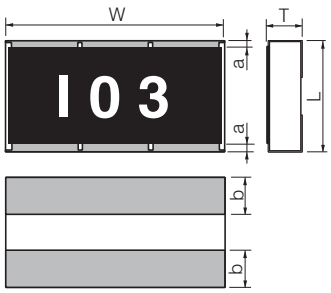
(R< 10 mΩ) (10 mΩ ≦ R ≦ 1 MΩ)



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

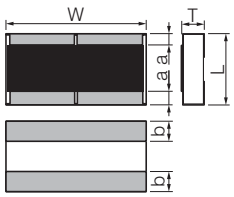
ERJB1 type



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

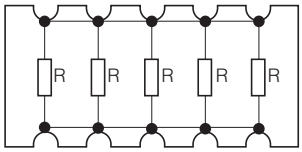


Mass (Weight) [1000 pcs.] : 4.8 g

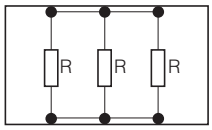
Dimensions (mm)	L	W	T	a	b
	1.25±0.10	2.00±0.15	0.50±0.10	0.25±0.20	0.40±0.20

Circuit Configuration

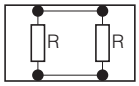
ERJA1 type



ERJB1 type

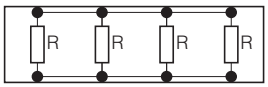


ERJB3 type

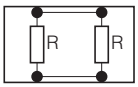


ERJB2 type

< Less than 10 mΩ >



< Low resistance zone >



< High resistance zone >