

Anti-Sulfurated Thick Film Chip Resistors

ERJ S : 0402, 0603, 0805, 1206, 1210,
1812, 2010, 2512

ERJ S6 : 0805

ERJ U : 0201, 0402, 0603, 0805, 1206,
1210, 1812, 2010, 2512

Type: ERJ S02, S03, S06, S08, S14
S12, S1D, S1T (Au-based inner electrode type)

Type: ERJ S6S, S6Q (Ag-Pd-based inner electrode type)

Type: ERJ U01, U02, U03, U06, U08, U14,
U12, U1D, U1T (Ag-Pd-based inner electrode type)

Features

- High resistance to sulfurization achieved by adopting an Au-based inner electrode (ERJS0/S1 type) and Ag-Pd-based inner electrode (ERJS6, ERJU type)
- High reliability
Metal glaze thick film resistive element and three layers of electrodes
- Suitable for both reflow and flow soldering
- Low Resistance type...ERJS6S, S6Q : 0.1 Ω to 1.0 Ω
- Reference Standard...IEC 60115-8, JIS C 5201-8, EIAJ RC-2134B
- RoHS compliant

Packaging Methods, Land Pattern, Soldering Conditions and Safety Precautions

Please see Data Files

Explanation of Part Numbers

- ERJS0, S1, U0, U1 Series

1	2	3	4	5	6	7	8	9	10	11	12
E	R	J	S	0	6	F	1	0	0	2	V

Product Code

Thick Film Chip Resistors

Size, Power Rating

Type: inch	Power R.	Type: inch	Power R.
U01 : 0201	0.05 W	S14 U14 : 1210	0.5 W
S02 U02 : 0402	0.1 W	S12 U12 : 1812	0.75 W
S03 U03 : 0603	0.1 W	S1D U1D : 2010	0.75 W
S06 U06 : 0805	0.125 W	S1T U1T : 2512	1 W
S08 U08 : 1206	0.25 W		

Resistance Tolerance

Code	Tolerance
F	± 1 %
J	± 5 %
0	Jumper

Resistance Value

The first two or three digits are significant figures of resistance and the third or 4th one denotes number of zeros following. Jumper is expressed by R00.
Three digit type (±5%), four digit type (±1%)
Example: 222→2.2 kΩ, 1002→10 kΩ

Packaging Methods

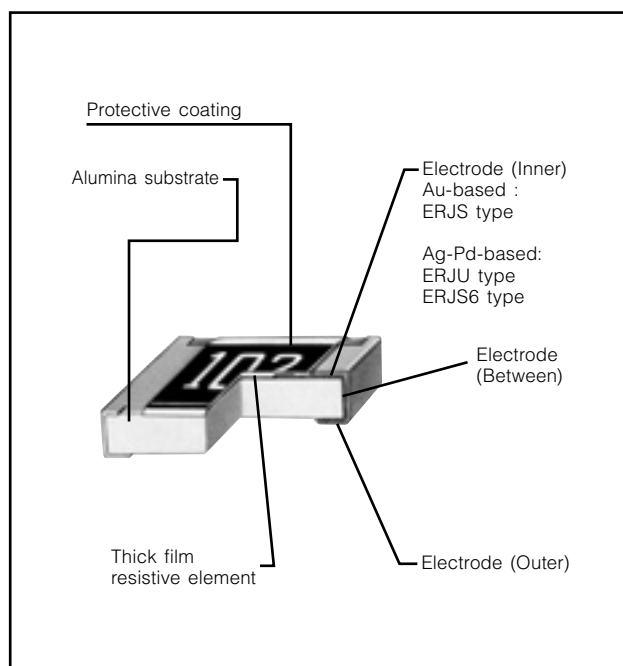
Code	Packaging	Type
C	Pressed Carrier Taping 2 mm pitch, 15,000 pcs.	ERJU01
X	Punched Carrier Taping 2 mm pitch, 10,000 pcs.	ERJS02, ERJU02
V	Punched Carrier Taping 4 mm pitch, 5,000 pcs.	ERJS03, ERJU03 ERJS06, ERJU06 ERJS08, ERJU08
U	Embossed Carrier Taping 4 mm pitch, 5,000 pcs.	ERJS14, ERJU14 ERJS12, ERJU12 ERJS1D, ERJU1D
	Embossed Carrier Taping 4 mm pitch, 4,000 pcs.	ERJS1T, ERJU1T

- ERJS6S, S6Q Series

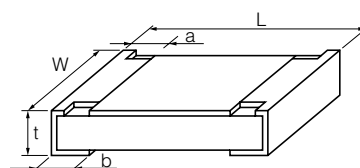
1	2	3	4	5	6	7	8	9	10	11
E	R	J	S	6	S	J	R	2	0	V

Size, Power Rating		Resistance Value		Resistance Tolerance		Resistance Value		Packaging Methods		
Type: inch	Power R.	Code	Res. Value	Code	Tolerance	Shown by 3 digits or letters. (Example) R20 : 0.20 Ω =200 m Ω 1R0 : 1.00 Ω =1000 m Ω		Code	Packaging	Type
S6: 0805	0.25 W	S	0.1 Ω to 0.2 Ω	F	$\pm 1\%$			V	Punched Carrier Taping 4 mm pitch, 5,000 pcs.	ERJS6
		Q	0.22 Ω to 1 Ω	G	$\pm 2\%$					
				J	$\pm 5\%$					

■ Construction



■ Dimensions in mm (not to scale)



Type (inch size)	Dimensions (mm)					Mass (Weight) [g/1000 pcs.]
	L	W	a	b	t	
ERJU01 (0201)	0.60 $\pm$ 0.03	0.30 $\pm$ 0.03	0.10 $\pm$ 0.05	0.15 $\pm$ 0.05	0.23 $\pm$ 0.03	0.15
ERJS02 ERJU02 (0402)	1.00 $\pm$ 0.05	0.50 $\pm$ 0.05	0.20 $\pm$ 0.10	0.25 $\pm$ 0.10	0.35 $\pm$ 0.05	0.8
ERJS03 ERJU03 (0603)	1.60 $\pm$ 0.15	0.80 $\pm$ 0.15	0.30 $\pm$ 0.20	0.30 $\pm$ 0.15	0.45 $\pm$ 0.10	2
ERJS06 ERJU06 (0805)	2.00 $\pm$ 0.20	1.25 $\pm$ 0.10	0.40 $\pm$ 0.20	0.40 $\pm$ 0.20	0.60 $\pm$ 0.10	4
ERJS6□ (0805)	2.00 $\pm$ 0.20	1.25 $\pm$ 0.10	0.45 $\pm$ 0.20	0.45 $\pm$ 0.20	0.55 $\pm$ 0.10	6
ERJS08 ERJU08 (1206)	3.20 $\pm$ 0.20	1.60 $\pm$ 0.15	0.50 $\pm$ 0.20	0.50 $\pm$ 0.20	0.60 $\pm$ 0.10	10
ERJS14 ERJU14 (1210)	3.20 $\pm$ 0.20	2.50 $\pm$ 0.20	0.50 $\pm$ 0.20	0.50 $\pm$ 0.20	0.60 $\pm$ 0.10	16
ERJS12 ERJU12 (1812)	4.50 $\pm$ 0.20	3.20 $\pm$ 0.20	0.50 $\pm$ 0.20	0.50 $\pm$ 0.20	0.60 $\pm$ 0.10	27
ERJS1D ERJU1D (2010)	5.00 $\pm$ 0.20	2.50 $\pm$ 0.20	0.60 $\pm$ 0.20	0.60 $\pm$ 0.20	0.60 $\pm$ 0.10	27
ERJS1T ERJU1T (2512)	6.40 $\pm$ 0.20	3.20 $\pm$ 0.20	0.65 $\pm$ 0.20	0.60 $\pm$ 0.20	0.60 $\pm$ 0.10	45

■ Ratings

Type (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)
ERJU01 (0201)	0.05	25	50	±1	10 to 1 M (E24, E96)	<10 Ω: -100 to +600	-55 to +125
ERJS02 ERJU02 (0402)	0.1	50	100	±5	1 to 1 M (E24)		-55 to +155
ERJS03 ERJU03 (0603)	0.1	75	150	±1	10 to 1 M (E24, E96)		-55 to +155
ERJS06 ERJU06 (0805)	0.125	150	200	±5	1 to 10 M (E24)		-55 to +155
ERJS08 ERJU08 (1206)	0.25	200	400	±1	10 to 1 M (E24, E96)	10 Ω to 1 MΩ: ±200(±5%)* ±100(±1%)*	-55 to +155
ERJS14 ERJU14 (1210)	0.5	200	400	±5	1 to 10 M (E24)		-55 to +155
ERJS12 ERJU12 (1812)	0.75	200	500	±1	10 to 1 M (E24, E96)		-55 to +155
ERJS1D ERJU1D (2010)	0.75	200	500	±5	1 to 10 M (E24)		-55 to +155
ERJS1T ERJU1T (2512)	1.0	200	500	±1	10 to 1 M (E24, E96)	1 MΩ<: -400 to +150	-55 to +155
				±5	1 to 10 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 $SOTV = 2.5 \times \text{Power Rating}$ or max. Overload Voltage listed above whichever less.

<Low Resistance type>

Type (inch size)	Power Rating at 70 °C (W)	Resistance Tolerance (%)	Resistance Range (Ω)	T.C.R. (×10 ⁻⁶ /°C)	Category Temperature Range (°C)
ERJS6S (0805)	0.25	±1, ±2, ±5	0.1 to 0.2 (E24)	±150	-55 to +155
ERJS6Q (0805)			0.22 to 1 (E24)		

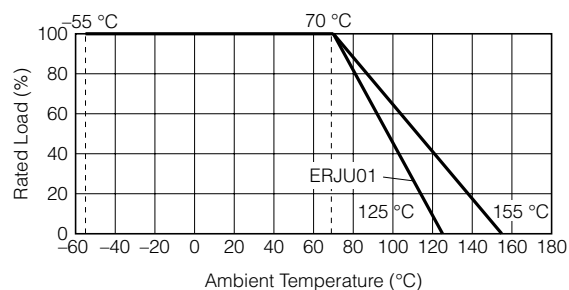
Design and specifications are each subject to change without notice. Ask factory for the current technical specifications before purchase and/or use.
Should a safety concern arise regarding this product, please be sure to contact us immediately.

<For Jumper>

Type (inch size)	Rated Current (A)	Maximum Overload Current (A)
ERJU01 (0201)	0.5	1
ERJS02 ERJU02 (0402)	1	2
ERJS03 ERJU03 (0603)		
ERJS06 ERJU06 ERJS6S/Q (0805)	2	4
ERJS08 ERJU08 (1206)		
ERJS14 ERJU14 (1210)		
ERJS12 ERJU12 (1812)		
ERJS1D ERJU1D (2012)		
ERJS1T ERJU1T (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-U02D2322X	ERJ-U02D2372X	ERJ-U02D2400X	ERJ-U02D2430X	ERJ-U02D2490X	ERJ-U02D24R0X	ERJ-
U02D8452X	ERJ-U02D8661X	ERJ-U02D8870X	ERJ-U02D88R7X	ERJ-U02D9093X	ERJ-U02D9532X	ERJ-
U02D9761X	ERJ-U02D8061X	ERJ-U02D8200X	ERJ-U02D8250X	ERJ-U02D82R0X	ERJ-U02D8663X	ERJ-
U02D8872X	ERJ-U02D9091X	ERJ-U02D9100X	ERJ-U02D91R0X	ERJ-U02D9313X	ERJ-U02D84R5X	ERJ-
U02D7683X	ERJ-U02D7872X	ERJ-U02D68R1X	ERJ-U02D6983X	ERJ-U02D7152X	ERJ-U02D7321X	ERJ-
U02D7500X	ERJ-U02D75R0X	ERJ-U02D6811X	ERJ-U02D8252X	ERJ-U02D8450X	ERJ-U02D7502X	ERJ-
U02D7681X	ERJ-U02D7870X	ERJ-U02D78R7X	ERJ-U02D8063X	ERJ-U02D8202X	ERJ-U02D6340X	ERJ-
U02D63R4X	ERJ-U02D6493X	ERJ-U02D6652X	ERJ-U02D6801X	ERJ-U02D7323X	ERJ-U02D59R0X	ERJ-
U02D6043X	ERJ-U02D6192X	ERJ-U02D6201X	ERJ-U02D9101X	ERJ-U02D9310X	ERJ-U02D93R1X	ERJ-
U02D9533X	ERJ-U02D9762X	ERJ-U02D9312X	ERJ-U02D9531X	ERJ-U02D9760X	ERJ-U02D97R6X	ERJ-
U02D9092X	ERJ-U02D7150X	ERJ-U02D71R5X	ERJ-U02D8871X	ERJ-U02D9090X	ERJ-U02D90R9X	ERJ-
U02D9103X	ERJ-U02D6491X	ERJ-U02D6650X	ERJ-U02D66R5X	ERJ-U02D6803X	ERJ-U02D6813X	ERJ-
U02D6981X	ERJ-U02D54R9X	ERJ-U02D5603X	ERJ-U02D5623X	ERJ-U02D5761X	ERJ-U02D5900X	ERJ-
U02D6342X	ERJ-U02D86R6X	ERJ-U02D8873X	ERJ-U02D51R0X	ERJ-U02D5232X	ERJ-U02D5361X	ERJ-
U02D5490X	ERJ-U02D8060X	ERJ-U02D80R6X	ERJ-U02D8203X	ERJ-U02D8253X	ERJ-U02D8451X	ERJ-
U02D8660X	ERJ-U02D8201X	ERJ-U02D8251X	ERJ-U02D82R5X	ERJ-U02D8453X	ERJ-U02D8662X	ERJ-
U02D7871X	ERJ-U02D61R9X	ERJ-U02D6203X	ERJ-U02D7680X			