Anti-Sulfurated Thick Film Chip Resistors

Anti-Sulfurated Thick Film Chip Resistors



Type: ERJ S02, S03, S06, S08, S14, S12, S1D, S1T

(Au-based inner electrode type)

Type: ERJ U01, U02, U03, U06, U08, U14, U12,

U1D, U1T, U6S, U6Q

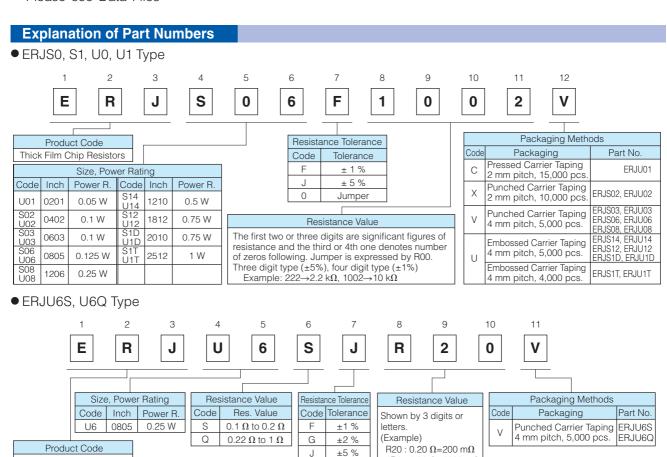
(Ag-Pd-based inner electrode type)

Features

- High resistance to sulfurization achieved by adopting an Au-based inner electrode (ERJS type) and Ag-Pd-based inner electrode (ERJU type)
- High reliability
 Metal glaze thick film resistive element and three layers of electrodes
- Suitable for both reflow and flow soldering
- \bullet Low Resistance type...ERJU6S, U6Q : 0.1 Ω to 1.0 Ω
- Reference Standard···IEC 60115-8, JIS C 5201-8, EIAJ RC-2134B
- AEC-Q200 qualified (Exemption ERJU01)
- RoHS compliant

Thick Film Chip Resistors

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



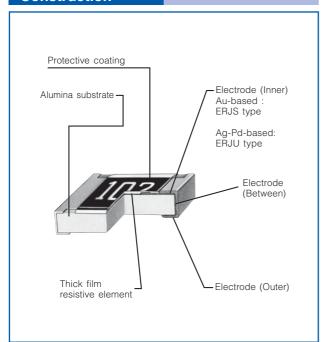
1R0 : 1.00 Ω =1000 m Ω



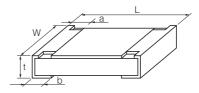
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Construction

Ratings



Dimensions in mm (not to scale)



Part No.	Dimensions (mm)					Mass (Weight)	
(inch size)	L	W	а	b	t	[g/1000 pcs.]	
ERJU01 (0201)	0.60 ^{±0.03}	$0.30^{\pm0.03}$	0.10 ^{±0.05}	0.15 ^{±0.05}	0.23 ^{±0.03}	0.15	
ERJS02 (0402) ERJU02	1.00 ^{±0.05}	0.50 ^{±0.05}	0.20 ^{±0.10}	0.25 ^{±0.10}	0.35 ^{±0.05}	0.8	
ERJS03 (0603) ERJU03	1.60 ^{±0.15}	0.80+0.15	0.30 ^{±0.20}	0.30 ^{±0.15}	0.45 ^{±0.10}	2	
ERJS06 (0805) ERJU06	2.00 ^{±0.20}	1.25 ^{±0.10}	0.40 ^{±0.20}	0.40 ^{±0.20}	0.60 ^{±0.10}	4	
ERJU6□ (0805)	2.00 ^{±0.20}	1.25 ^{±0.10}	0.45 ^{±0.20}	0.45 ^{±0.20}	0.55 ^{±0.10}	6	
ERJS08 (1206) ERJU08	3.20+0.05	1.60+0.05	0.50 ^{±0.20}	0.50 ^{±0.20}	0.60 ^{±0.10}	10	
ERJS14 (1210) ERJU14	3.20 ^{±0.20}	2.50 ^{±0.20}	0.50 ^{±0.20}	0.50 ^{±0.20}	0.60 ^{±0.10}	16	
ERJS12 (1812) ERJU12	4.50 ^{±0.20}	3.20 ^{±0.20}	0.50 ^{±0.20}	0.50 ^{±0.20}	0.60 ^{±0.10}	27	
ERJS1D (2010) ERJU1D	5.00 ^{±0.20}	2.50 ^{±0.20}	0.60 ^{±0.20}	0.60 ^{±0.20}	0.60 ^{±0.10}	27	
ERJS1T (2512) ERJU1T	6.40 ^{±0.20}	3.20 ^{±0.20}	0.65 ^{±0.20}	0.60 ^{±0.20}	0.60 ^{±0.10}	45	

-55 to +155

Part No. (inch size)	PowerRating 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 ±5	10 to 1 M (E24, E96) 1 to 1 M (E24)		-55 to +125
ERJS02 ERJU02	0.1	50	100	±1 ±5	10 to 1 M (E24, E96) 1 to 3.3 M (E24)	<10 Ω: -100 to +600	-55 to +155
(0402) ERJS03	0.1	7.5	150	±3	10 to 1 M (E24, E96)		FF to . 1FF
ERJU03 (0603) ERJS06	0.1	75	150	±5	1 to 10 M (E24)		-55 to +155
ERJU06 (0805)	0.125	150	200	±1 ±5	10 to 1 M (E24, E96) 1 to 10 M (E24)	10 Ω to 1 M Ω :	-55 to +155
ERJS08 ERJU08 (1206)	0.25	200	400	±1 ±5	10 to 1 M (E24, E96) 1 to 10 M (E24)	±200(±5%) ±100(±1%)*	-55 to +155
ERJS14 ERJU14	0.5	200	400	±1 ±5	10 to 1 M (E24, E96) 1 to 10 M (E24)	≭ ERJU01, ERJS02, ERJU02:	-55 to +155
(1210) ERJS12 ERJU12	0.75	200	500	±1	10 to 1 M (E24, E96)	±200 1 MΩ<:	-55 to +155
(1812) ERJS1D	3.70	230		±5 ±1	1 to 10 M (E24) 10 to 1 M (E24, E96)		
ERJU1D	0.75	200	500		(== 1, == 1)	-400 to +150	-55 to +155

⁽¹⁾ Rated Continuous Working Voltage (RCWV) shall be determined from RCWV=√Power Rating × Resistance Values, or Limiting Element Voltage listed above, whichever less.

±5

±1

±5

1 to 10 M (E24)

1 to 10 M (E24)

(E24, E96)

10 to 1 M

[Low Resistance type]

ERJU1T

(2512)

(2010)ERJS1T

1.0

200

500

Part No. (inch size)	PowerRating at 70 °C (W)	Resistance Tolerance (%)	Resistance Range (Ω)	T.C.R. (×10 ⁻⁶ /°C)	Category Temperature Range (°C)
ERJU6S (0805)	0.25	±1, ±2, ±5	0.1 to 0.2 (E24)	±150	-55 to +155
ERJU6Q (0805)	0.25	±1, ±2, ±3	0.22 to 1 (E24)	±130	

⁽²⁾ Overload (Short-time Overload) Test Voltage (SOTV) shall be determined from SOTV=2.5 × RCWV or max. Overload Voltage listed above whichever less.



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[For Jumper]

[i or oumpor]				
Part No. (inch size)	Rated Current (A)	Maximum Overload Current (A)		
ERJU01 (0201)	0.5	1		
ERJS02 ERJU02 (0402)	1	2		
ERJS03 ERJU03 (0603)	'	2		
ERJS06 ERJU06 (0805)				
ERJS08 ERJU08 (1206)				
ERJS14 ERJU14 (1210)	2	4		
ERJS12 ERJU12 (1812)	۷			
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.

