

## 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)

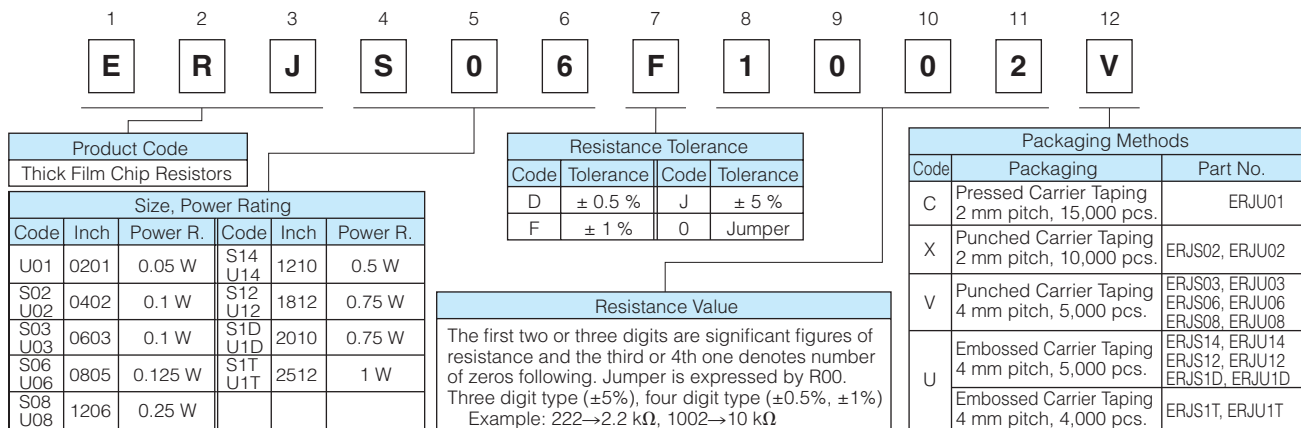
### Features

- 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
- 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

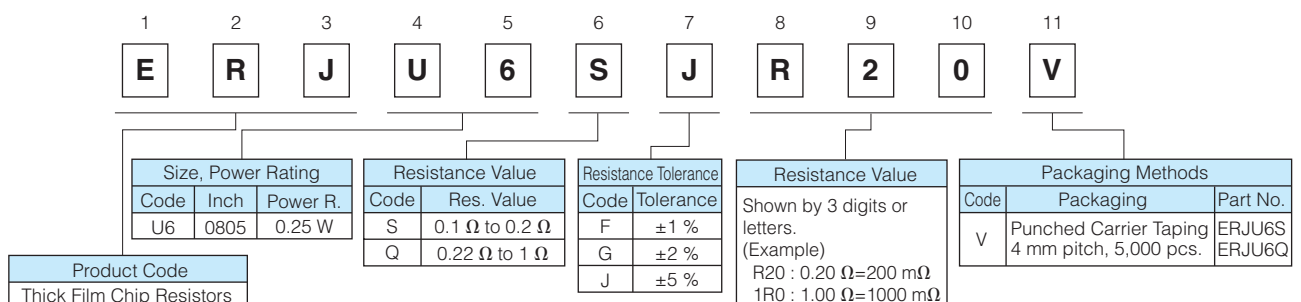
■ **As for Packaging Methods, Land Pattern, Soldering Conditions and Safety Precautions,**  
Please see Data Files

### Explanation of Part Numbers

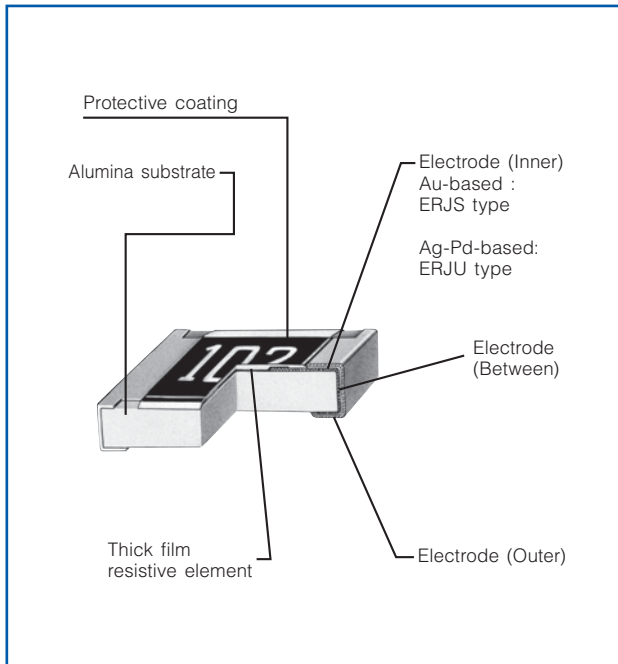
- ERJS0, S1, U0, U1 Type



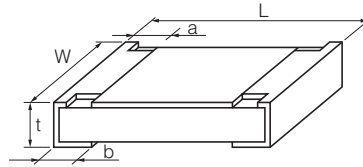
- ERJU6S, U6Q Type



## Construction



## Dimensions in mm (not to scale)



Part No. (inch size)	Dimensions (mm)					Mass (Weight) [g/1000 pcs.]
	L	W	a	b	t	
ERJU01 (0201)	0.60 <sup>+0.03</sup>	0.30 <sup>+0.03</sup>	0.10 <sup>+0.05</sup>	0.15 <sup>+0.05</sup>	0.23 <sup>+0.03</sup>	0.15
ERJS02 ERJU02	1.00 <sup>+0.05</sup>	0.50 <sup>+0.05</sup>	0.20 <sup>+0.10</sup>	0.25 <sup>+0.10</sup>	0.35 <sup>+0.05</sup>	0.8
ERJS03 ERJU03	1.60 <sup>+0.15</sup>	0.80 <sup>+0.15</sup>	0.30 <sup>+0.20</sup>	0.30 <sup>+0.15</sup>	0.45 <sup>+0.10</sup>	2
ERJS06 ERJU06	2.00 <sup>+0.20</sup>	1.25 <sup>+0.10</sup>	0.40 <sup>+0.20</sup>	0.40 <sup>+0.20</sup>	0.60 <sup>+0.10</sup>	4
ERJU6□ (0805)	2.00 <sup>+0.20</sup>	1.25 <sup>+0.10</sup>	0.45 <sup>+0.20</sup>	0.45 <sup>+0.20</sup>	0.55 <sup>+0.10</sup>	6
ERJS08 ERJU08	3.20 <sup>+0.05</sup>	1.60 <sup>+0.05</sup>	0.50 <sup>+0.20</sup>	0.50 <sup>+0.20</sup>	0.60 <sup>+0.10</sup>	10
ERJS14 ERJU14	3.20 <sup>+0.20</sup>	2.50 <sup>+0.20</sup>	0.50 <sup>+0.20</sup>	0.50 <sup>+0.20</sup>	0.60 <sup>+0.10</sup>	16
ERJS12 ERJU12	4.50 <sup>+0.20</sup>	3.20 <sup>+0.20</sup>	0.50 <sup>+0.20</sup>	0.50 <sup>+0.20</sup>	0.60 <sup>+0.10</sup>	27
ERJS1D ERJU1D	5.00 <sup>+0.20</sup>	2.50 <sup>+0.20</sup>	0.60 <sup>+0.20</sup>	0.60 <sup>+0.20</sup>	0.60 <sup>+0.10</sup>	27
ERJS1T ERJU1T	6.40 <sup>+0.20</sup>	3.20 <sup>+0.20</sup>	0.65 <sup>+0.20</sup>	0.60 <sup>+0.20</sup>	0.60 <sup>+0.10</sup>	45

## 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)
ERJU01 (0201)	0.05	25	50	±1 ±5	10 to 1 M (E24, E96) 1 to 1 M (E24)	<10 Ω: -100 to +600  10 Ω to 1 MΩ: ±200(±5%) ±100(±0.5, ±1%)*  *ERJU01, ERJS02, ERJU02 : ±200  1 MΩ<: -400 to +150	-55 to +125
ERJS02 ERJU02 (0402)	0.1	50	100	±0.5, ±1 ±5	10 to 1 M (E24, E96) 1 to 3.3 M (E24)		-55 to +155
ERJS03 ERJU03 (0603)	0.1	75	150	±0.5, ±1 ±5	10 to 1 M (E24, E96) 1 to 10 M (E24)		-55 to +155
ERJS06 ERJU06 (0805)	0.125	150	200	±0.5, ±1 ±5	10 to 1 M (E24, E96) 1 to 10 M (E24)		-55 to +155
ERJS08 ERJU08 (1206)	0.25	200	400	±0.5, ±1 ±5	10 to 1 M (E24, E96) 1 to 10 M (E24)		-55 to +155
ERJS14 ERJU14 (1210)	0.5	200	400	±0.5, ±1 ±5	10 to 1 M (E24, E96) 1 to 10 M (E24)		-55 to +155
ERJS12 ERJU12 (1812)	0.75	200	500	±0.5, ±1 ±5	10 to 1 M (E24, E96) 1 to 10 M (E24)		-55 to +155
ERJS1D ERJU1D (2010)	0.75	200	500	±0.5, ±1 ±5	10 to 1 M (E24, E96) 1 to 10 M (E24)		-55 to +155
ERJS1T ERJU1T (2512)	1.0	200	500	±0.5, ±1 ±5	10 to 1 M (E24, E96) 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  $SOTV = 2.5 \times RCWV$  or max. Overload Voltage listed above whichever less.

## [Low Resistance type]

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

[For Jumper]

Part No. (inch size)	Rated Current (A)	Maximum Overload Current (A)
ERJU01 (0201)	0.5	1
ERJS02 ERJU02 (0402)	1	2
ERJS03 ERJU03 (0603)		
ERJS06 ERJU06 (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.

