

Anti-Surge Thick Film Chip Resistors 0603, 0805, 1206, 1210, 0805

Type: **ERJ P03, PA3, P06, P08, P14**
ERJ P6W



■ Features

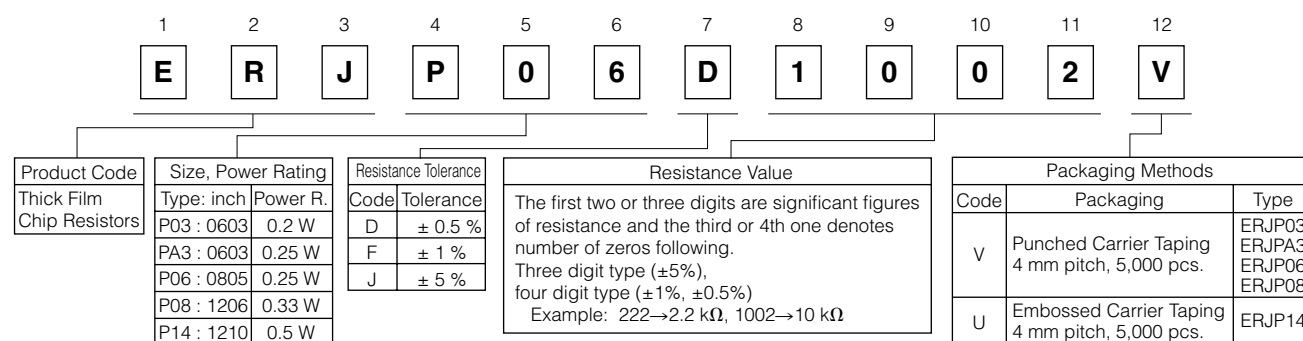
- ESD surge characteristics superior to standard metal film resistors
- High reliability
Metal glaze thick film resistive element and three layers of electrodes
- Suitable for both reflow and flow soldering
- High power... 0.2 W : 1608(0603) size(ERJP03)
0.25 W : 1608(0603) size(ERJPA3), 2012(0805) size(ERJP06)
0.33 W : 3216(1206) size(ERJP08)
0.5 W : 3225(1210) size(ERJP14), double-sided resistive elements structure 2012(0805) size(ERJP6W)
- Reference Standards... IEC 60115-8, JIS C 5201-8, EIAJ RC-2134B
- RoHS compliant

■ Packaging Methods, Land Pattern, Soldering Conditions and Safety Precautions

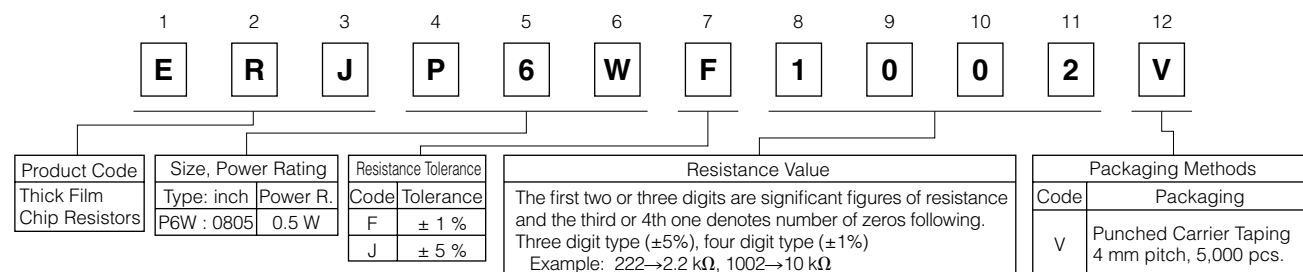
Please see Data Files

■ Explanation of Part Numbers

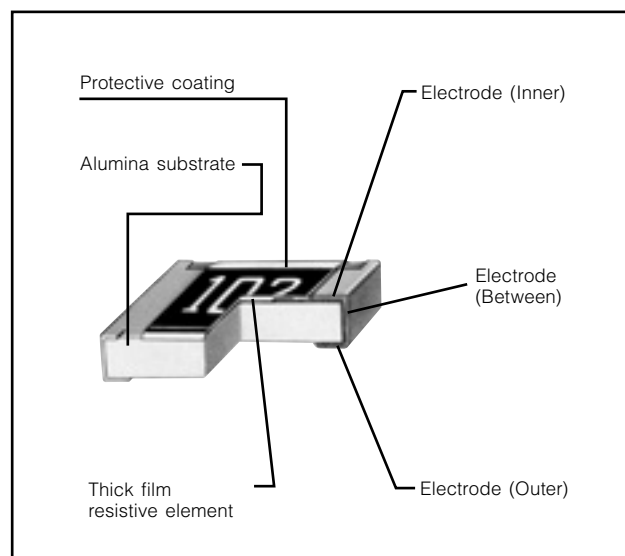
- ERJP03, PA3, P06, P08, P14



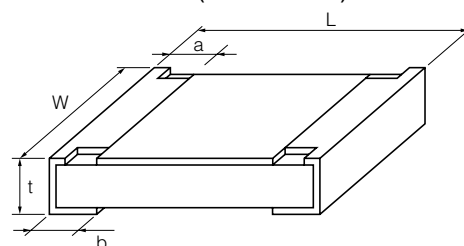
- ERJP6W(double-sided resistive elements structure)



Construction



Dimensions in mm (not to scale)



Type (inch size)	Dimensions (mm)					Mass (Weight) [g/1000pcs.]
	L	W	a	b	t	
ERJP03 (0603)	1.60 ^{+0.15} _{-0.10}	0.80 ^{+0.15} _{-0.05}	0.15 ^{+0.15} _{-0.10}	0.30 ^{+0.15} _{-0.10}	0.45 ^{+0.10} _{-0.10}	2
ERJPA3 (0603)	1.60 ^{+0.15} _{-0.10}	0.80 ^{+0.15} _{-0.05}	0.15 ^{+0.15} _{-0.10}	0.25 ^{+0.10} _{-0.10}	0.45 ^{+0.10} _{-0.10}	2
ERJP06 (0805)	2.00 ^{+0.20} _{-0.10}	1.25 ^{+0.10} _{-0.10}	0.25 ^{+0.20} _{-0.10}	0.40 ^{+0.20} _{-0.10}	0.60 ^{+0.10} _{-0.10}	4
ERJP6W (0805)	2.00 ^{+0.20} _{-0.10}	1.25 ^{+0.20} _{-0.10}	0.35 ^{+0.20} _{-0.10}	0.35 ^{+0.20} _{-0.10}	0.65 ^{+0.10} _{-0.10}	6
ERJP08 (1206)	3.20 ^{+0.05} _{-0.20}	1.60 ^{+0.05} _{-0.15}	0.40 ^{+0.20} _{-0.10}	0.50 ^{+0.20} _{-0.10}	0.60 ^{+0.10} _{-0.10}	10
ERJP14 (1210)	3.20 ^{+0.20} _{-0.10}	2.50 ^{+0.20} _{-0.10}	0.35 ^{+0.20} _{-0.10}	0.50 ^{+0.20} _{-0.10}	0.60 ^{+0.10} _{-0.10}	16

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)
ERJP03 (0603)	0.2	150	200	±0.5	10 to 1 M (E24, E96)	±150	-55 to +155
				±1	10 to 1 M (E24, E96)	±200	
				±5	1 to 1 M (E24)	R < 10 Ω : -150 to +400 10 Ω ≤ R : ±200	
ERJPA3 (0603)	0.25	150	200	±0.5, ±1	10 to 1 M (E24, E96)	±100	-55 to +155
				±5	1 to 1.5 M (E24)	±200	
ERJP06 (0805)	0.25	400	600	±0.5, ±1	10 to 1 M (E24, E96)	R < 33 Ω : ±300 33 Ω ≤ R : ±100	-55 to +155
				±5	1 to 3.3 M (E24)	R < 10 Ω : -100 to +600 10 Ω ≤ R < 33 Ω : ±300 33 Ω ≤ R : ±200	
ERJP6W (0805)	0.5	150	200	±1	10 to 1 M (E24, E96)	±200	-55 to +155
				±5	1 to 1 M (E24)	R < 10 Ω : -100 to +600 10 Ω ≤ R : ±200	
ERJP08 (1206)	0.33	500	1000	±0.5, ±1	10 to 1 M (E24, E96)	±100	-55 to +155
				±5	1 to 10 M (E24)	R < 10 Ω : -100 to +600 10 Ω ≤ R : ±200	
ERJP14 (1210)	0.5	200	400	±0.5, ±1	10 to 1 M (E24, E96)	±100	-55 to +155
				±5	1 to 1 M (E24)	R < 10 Ω : -100 to +600 10 Ω ≤ R : ±200	

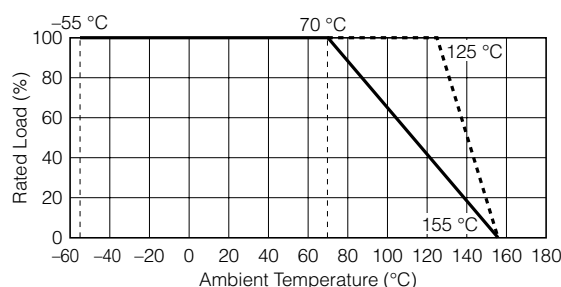
(1) Rated Continuous Working Voltage (RCWV) shall be determined from $RCWV = \sqrt{\text{Power Rating} \times \text{Resistance Values}}$, or Limiting Element Voltage listed above, whichever less.

(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.

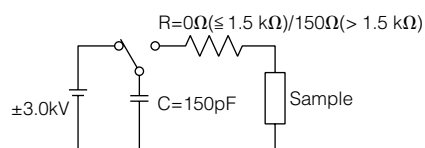
Power Derating Curve

For resistors operated in ambient temperatures above 70 °C, power rating shall be derated in accordance with the figure on the right.

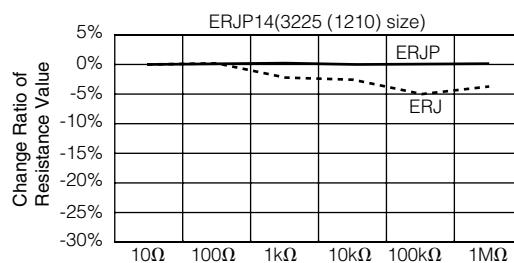
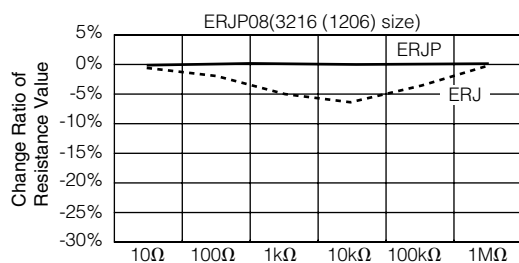
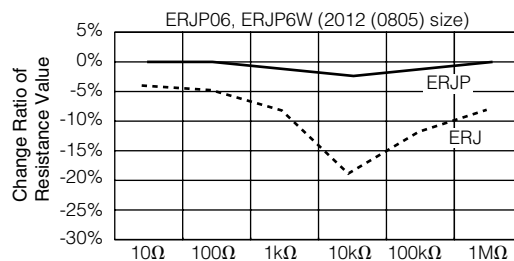
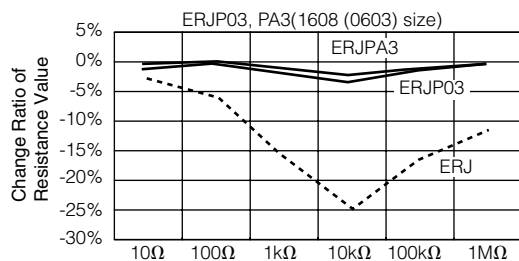
* When the temperature of ERJP06/08/14 is 155 °C or less, the derating start temperature can be changed to 125 °C. (See the dotted line)



ESD Characteristic



— Anti-Surge Thick Film Chip Resistors(ERJP Type)
 - - - Thick Film Chip Resistors(ERJ Type)



Anti-Pulse Thick Film Chip Resistors 0805, 1206, 1210

Type: **ERJ T06, T08, T14**



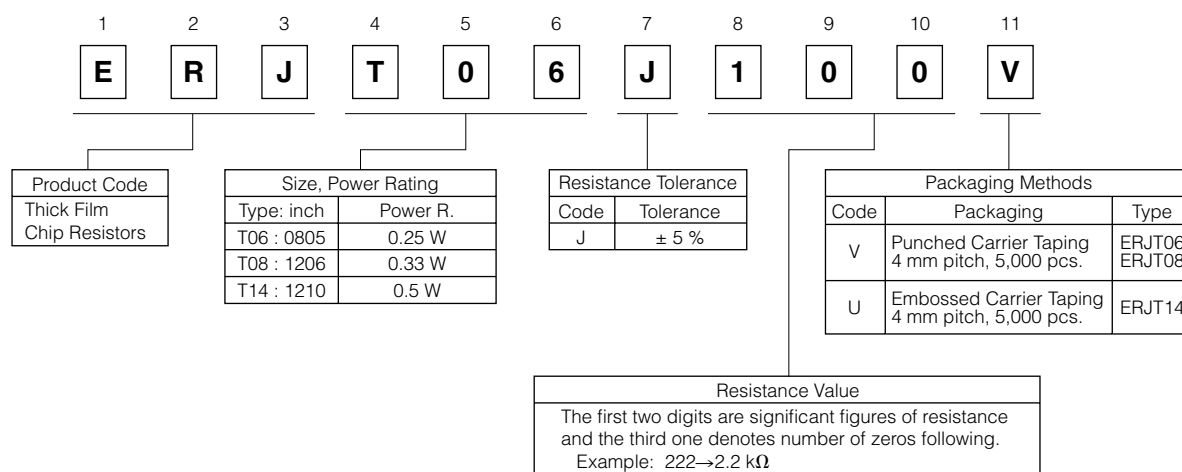
■ Features

- Anti-Pulse characteristics
High pulse characteristics achieved by the optimized trimming specifications
- High reliability
Metal glaze thick film resistive element and three layers of electrodes
- Suitable for both reflow and flow soldering
- High power··· 0.25 W : 2012(0805) size
0.33 W : 3216(1206) size
0.5 W : 3225(1210) size
- Reference Standards··· IEC 60115-8, JIS C 5201-8, EIAJ RC-2134B
- RoHS compliant

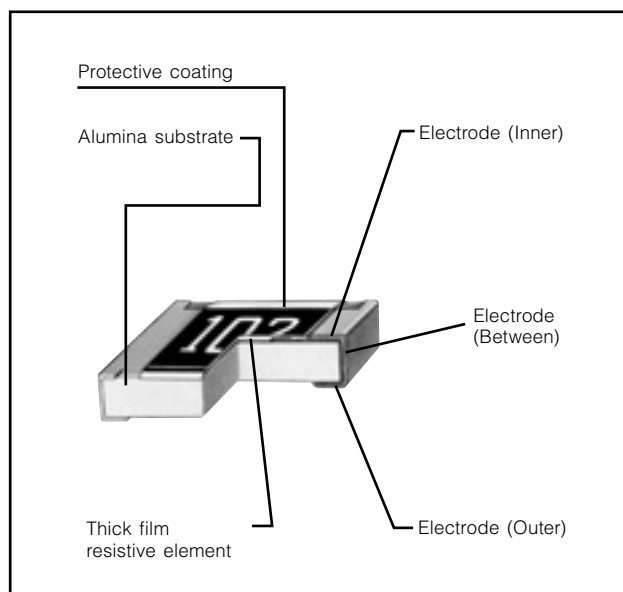
■ Packaging Methods, Land Pattern, Soldering Conditions and Safety Precautions

Please see Data Files

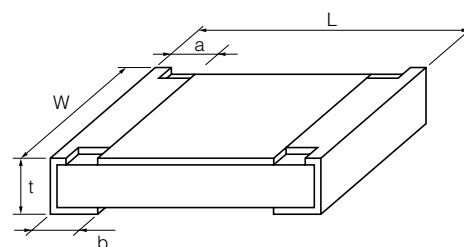
■ Explanation of Part Numbers



■ Construction



■ Dimensions in mm (not to scale)



Type (inch size)	Dimensions (mm)					Mass (Weight) [g/1000pcs.]
	L	W	a	b	t	
ERJT06 (0805)	2.00 ^{+0.20} _{-0.20}	1.25 ^{+0.10} _{-0.10}	0.25 ^{+0.20} _{-0.20}	0.40 ^{+0.20} _{-0.20}	0.60 ^{+0.10} _{-0.10}	4
ERJT08 (1206)	3.20 ^{+0.05} _{-0.20}	1.60 ^{+0.05} _{-0.15}	0.40 ^{+0.20} _{-0.20}	0.50 ^{+0.20} _{-0.20}	0.60 ^{+0.10} _{-0.10}	10
ERJT14 (1210)	3.20 ^{+0.20} _{-0.20}	2.50 ^{+0.20} _{-0.20}	0.35 ^{+0.20} _{-0.20}	0.50 ^{+0.20} _{-0.20}	0.60 ^{+0.10} _{-0.10}	16

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.

■ Ratings

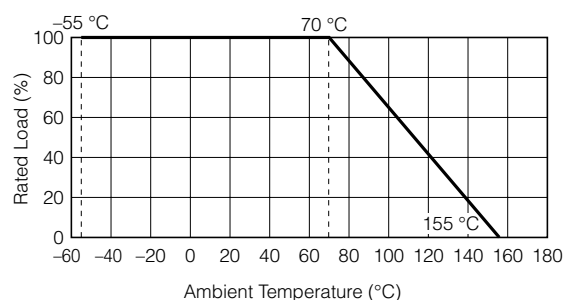
Type (inch size)	Power Rating at 70 °C (W)	Limiting Element Voltage ⁽¹⁾ (V)	Maximum Overload Voltage ⁽²⁾ (V)	Resistance Tolerance (%)	Resistance Range (Ω)	T.C.R. (×10 ⁻⁶ /°C)	Category Temperature Range (°C)
ERJT06 (0805)	0.25	150	200	±5	1 to 1 M (E24)	Less than 10 Ω : -100 to +600 Less than 33 Ω : ±300 More than 33 Ω : ±200	-55 to +155
ERJT08 (1206)	0.33	200	400	±5	1 to 1 M (E24)	Less than 10 Ω : -100 to +600 More than 10 Ω : ±200	-55 to +155
ERJT14 (1210)	0.5	200	400	±5	1 to 1 M (E24)	Less than 10 Ω : -100 to +600 More than 10 Ω : ±200	-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.

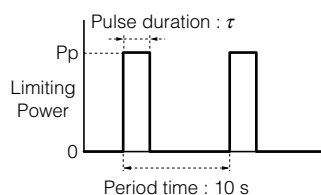
Power Derating Curve

For resistors operated in ambient temperatures above 70 °C, power rating shall be derated in accordance with the figure on the right.



■ Limiting Power Curve

- In rush pulse Characteristic

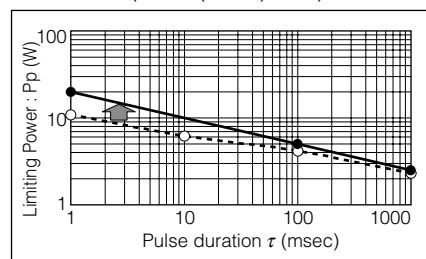


Test cycle : 1000 cycles

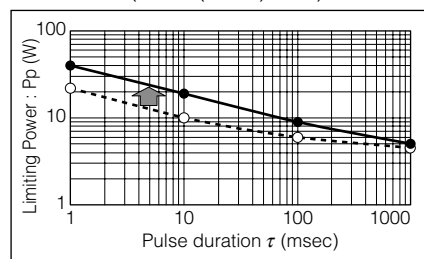
Spec : Resistance value = within ±5%

- : Anti-Pulse Thick Film Chip Resistors (ERJT Type)
- : Thick Film Chip Resistors (ERJ Type)

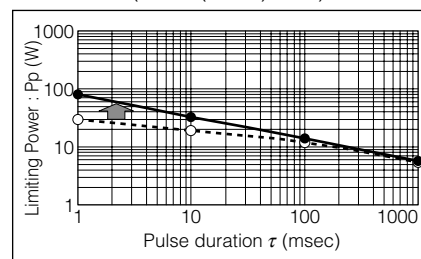
● ERJT06 (1212 (0805) size)



● ERJT08 (3216 (1206) size)



● ERJT14 (3225 (1210) size)



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[P06D4991V](#) [ERJ-P06D6652V](#) [ERJ-P06F4530V](#) [ERJ-P06D2153V](#) [ERJ-P06F2211V](#) [ERJ-P06F8062V](#) [ERJ-](#)
[P06F5110V](#) [ERJ-P06F4753V](#) [ERJ-P06F3831V](#) [ERJ-P06F3161V](#) [ERJ-P06F31R6V](#) [ERJ-P06F3011V](#) [ERJ-](#)
[P06F2491V](#) [ERJ-P06F2003V](#) [ERJ-P06D2003V](#) [ERJ-P06F9531V](#) [ERJ-P06F2611V](#) [ERJ-P06F3301V](#) [ERJ-](#)
[P06F5100V](#) [ERJ-P03F1000V](#) [ERJ-P03F1001V](#) [ERJ-P03F1003V](#) [ERJ-P03F1004V](#) [ERJ-P03F1020V](#) [ERJ-](#)
[P03F1021V](#) [ERJ-P03F1022V](#) [ERJ-P03F1023V](#) [ERJ-P03F1050V](#) [ERJ-P03F1051V](#) [ERJ-P03F1052V](#) [ERJ-](#)
[P03F1053V](#) [ERJ-P03F1070V](#) [ERJ-P03F1071V](#) [ERJ-P03F1072V](#) [ERJ-P03F1073V](#) [ERJ-P03F10R2V](#) [ERJ-](#)
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[P03F1152V](#) [ERJ-P03F1153V](#) [ERJ-P03F1180V](#) [ERJ-P03F1181V](#) [ERJ-P03F1182V](#) [ERJ-P03F1183V](#) [ERJ-](#)
[P03F11R0V](#) [ERJ-P03F11R3V](#) [ERJ-P03F11R5V](#) [ERJ-P03F11R8V](#) [ERJ-P03F1200V](#) [ERJ-P03F1201V](#)



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- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
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- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

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- Подбор аналогов;
- Консультации по применению компонента;
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- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

Телефон: 8 (812) 309 58 32 (многоканальный)

Факс: 8 (812) 320-02-42

Электронная почта: org@eplast1.ru

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.