

Trimable Chip resistors

ERJ TL : 1206

ERJ GL: 0805, 1206

ERJ L : 1210

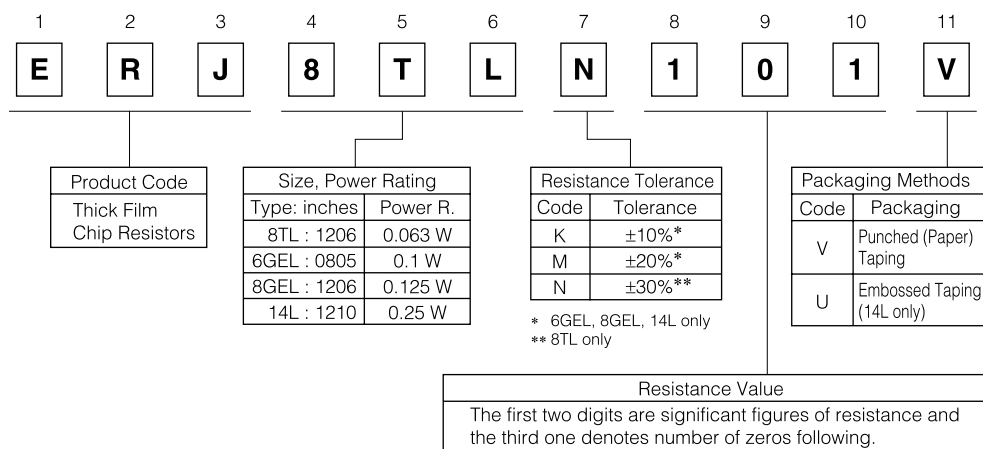
Type: **ERJ 8TL, 6GEL, 8GEL, 14L**



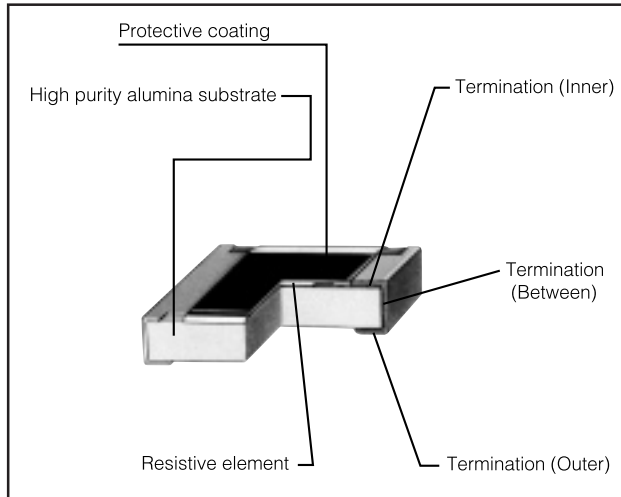
■ Features

- Small size and lightweight
For PCB size reduction and lightweight products
- High reliability
Metal glaze thick film resistive element and three layers of electrodes result in high reliability
- High magnification resistance adjustment
High magnification trimming is possible (More than 10 magnifications the initial resistance value as for ERJ8TL)

■ Explanation of Part Numbers

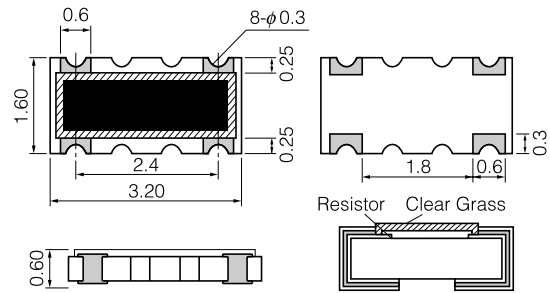


Construction

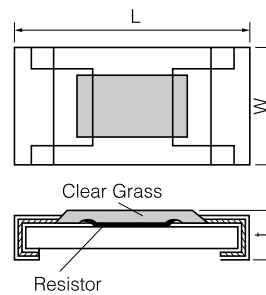


Dimensions in mm (not to scale)

Type ERJ8TL



Type ERJ6GEL, 8GEL, 14L



	L × W × t
ERJ6GEL	2.00×1.25×0.60
ERJ8GEL	3.20×1.60×0.60
ERJ14L	3.20×2.50×0.60

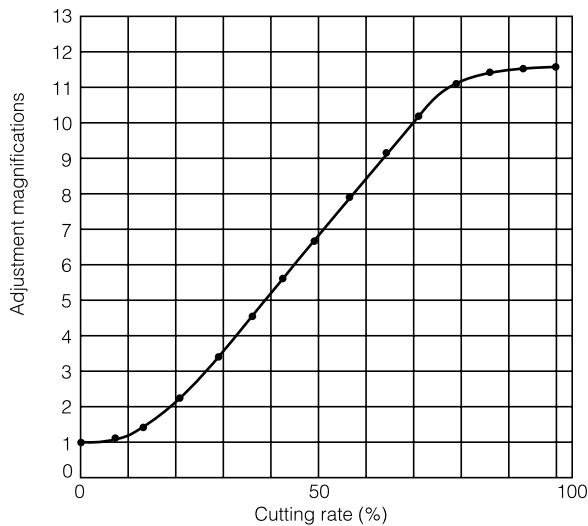
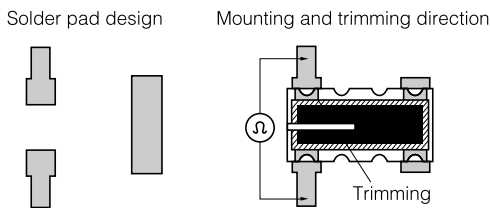
General Specifications

Item	Specifications
Resistance Range	10 Ω to 1 MΩ, E12 Series
Resistance Tolerance	ERJ8TL:±30 % ERJ6GEL, 8GEL, 14L:±10 %, ±20 %
Power Rating at 70 °C	ERJ8TL:0.063 W ERJ6GEL:0.1 W ERJ8GEL:0.125 W ERJ14L:0.25 W

Resistance Adjustment Curve

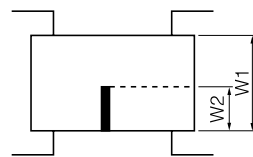
Type ERJ8TL

●Using Method

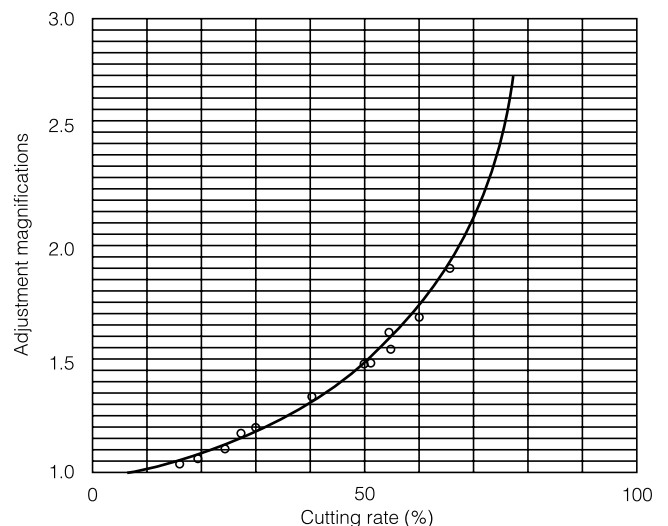


Type ERJ6GEL, ERJ8GEL, ERJ14L

●Using Method



How to trimming: Single cut
Cutting rate: $W2/W1 \times 100$

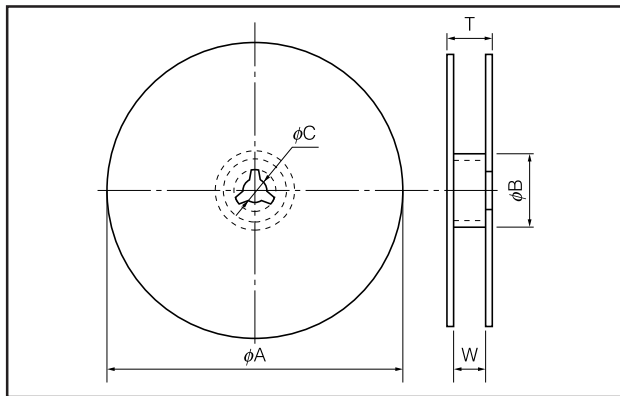


■ Packaging Methods

● Standard Quantity

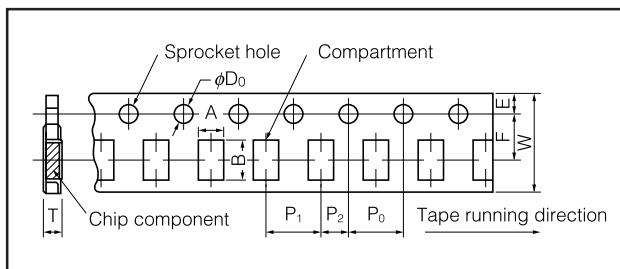
Type (inches)	Thickness (mm)	Punched (Paper) Taping (4 mm pitch)	Embossed Taping (4 mm pitch)
ERJ8TL (1206)	0.6	5000 pcs./reel	
ERJ6GEL (0805)	0.6	5000 pcs./reel	
ERJ8GEL (1206)	0.6	5000 pcs./reel	
ERJ14L (1210)	0.6		5000 pcs./reel

● Taping Reel



	ϕA	ϕB	ϕC	W	T
Dimensions (mm)	180.0 $^{+0.0}_{-3.0}$	60 min.	13.0 ± 1.0	9.0 ± 1.0	11.4 ± 2.0

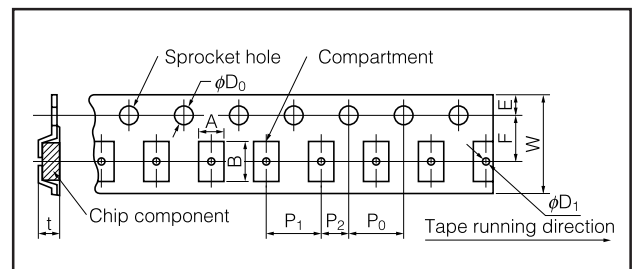
● Punched (Paper) Taping



	Type	A	B	W	F	E
Dimensions (mm)	8TL	2.00 ± 0.15	3.60 ± 0.20	8.00 ± 0.20	3.50 ± 0.05	1.75 ± 0.10
	6GEL	1.60 ± 0.15	2.40 ± 0.20			
	8GEL	1.90 ± 0.15	3.50 ± 0.20			

	Type	P ₁	P ₂	P ₀	ϕD_0	T
Dimensions (mm)	8TL	4.00 ± 0.10	2.00 ± 0.05	4.00 ± 0.10	1.50 $^{+0.10}_0$	0.84 ± 0.05
	6GEL					
	8GEL					

● Embossed Taping

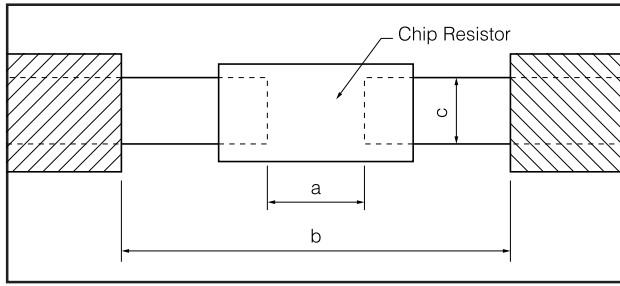


	Type	A	B	W	F	E	P ₁
Dimensions (mm)	14L	2.80 ± 0.20	3.50 ± 0.20	8.00 ± 0.30	3.50 ± 0.05	1.75 ± 0.10	4.00 ± 0.10

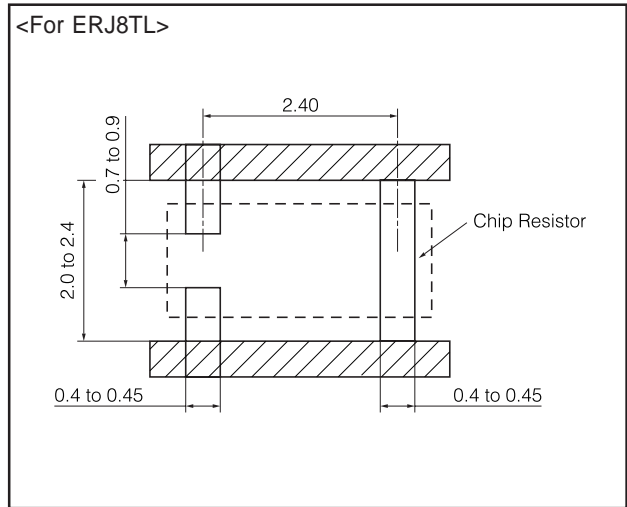
	Type	P ₂	P ₀	ϕD_0	t	ϕD_1
Dimensions (mm)	14L	2.00 ± 0.05	4.00 ± 0.10	1.50 $^{+0.10}_0$	1.00 ± 0.10	1 min.

Recommended Land Pattern

In the case of flow soldering, the land width must be smaller than the Chip Resistor width to control the solder amount properly. Generally, the land width should be 0.7 to 0.8 times (W) of the width of chip resistor. In the case of reflow soldering, solder amount can be adjusted, therefore the land width should be set to 1.0 to 1.3 times chip resistor width (W).



Type (inches)	Dimensions (mm)		
	a	b	c
ERJ6GEL (0805)	1 to 1.4	3.2 to 3.8	0.9 to 1.4
ERJ8GEL (1206)	2 to 2.4	4.4 to 5	1.2 to 1.8
ERJ14L (1210)	2 to 2.4	4.4 to 5	1.8 to 2.8

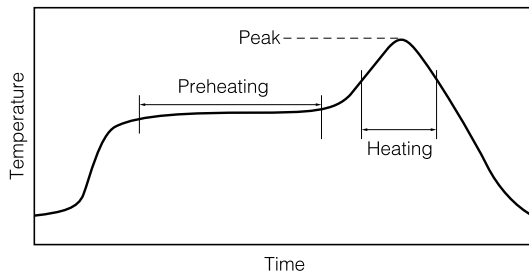


Recommended Soldering Conditions

Recommendations and precautions are described below.

Recommended soldering conditions for reflow

- Reflow soldering shall be two times maximum.
- Please contact us for additional information when you use in conditions other than those specified.
- Please measure a temperature of terminations and study solderability every kind of solder and board, before actual use.



For solder (Example : Sn/Pb)

	Temperature	Time
Preheating	140 °C to 160 °C	60 s to 120 s
Main heating	Above 200 °C	30 s to 40 s
Peak	235 ± 5 °C	max. 10 s

For lead-free solder (Example : Sn/Ag/Cu)

	Temperature	Time
Preheating	150 °C to 180 °C	60 s to 120 s
Main heating	Above 230 °C	30 s to 40 s
Peak	max. 260 °C	max. 10 s

Recommended soldering conditions for flow

	For solder		For lead-free solder	
	Temperature	Time	Temperature	Time
Preheating	140 °C to 160 °C	60 s to 120 s	150 °C to 180 °C	60 s to 120 s
Soldering	245±5 °C	20 s to 30 s	max. 260 °C	max. 10 s

⚠ Cautions for Safety

- If transient load (heavy load in a short time) like pulse is expected to be applied, carry out evaluation and confirmation test with the resistors actually mounted on your own board.
When the load of more than rated power is applied under the load condition at steady state, it may impair performance and/or reliability of resistor.
Never exceed the rated power.
- Chlorine type or other high-activity flux is not recommended as the residue may affect performance or reliability of resistors.
- When soldering with soldering iron, never touch the body of the chip resistor with a tip of the soldering iron. When using a soldering iron with a tip at high temperature, solder for a time as short as possible (three seconds or less up to 350 °C).
- Avoid physical shock to the resistor and nipping of the resistor with hard tool (a pair of pliers or tweezers) as it may damage protective film or the body of resistor and may affect resistor's performance.