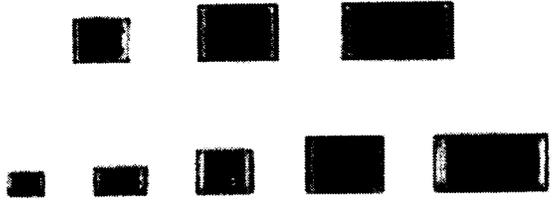


## Thick Film Chip Resistors / Low Resistance Type

Type: **ERJ**

ERJ L14, L12, L1W Series  
6RQ, 8RQ, 14RQ, 12RQ, 1WRQ Series



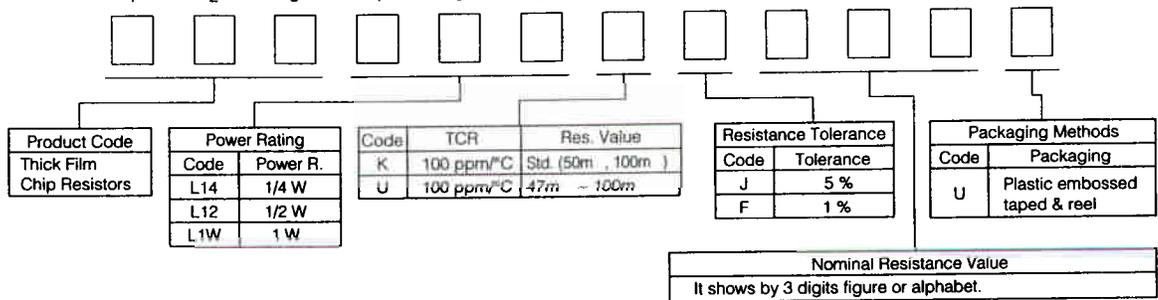
### ■ Features

- 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
- Matching with placement machine  
Bulk, taping and bulk case packagings for automatic placement machine
- Solderability  
Suitable for both reflow soldering and flow soldering
- Low Resistance Value  
L14, L12, L1W Series 47 mΩ ~ 100 mΩ  
6R, 8R, 14R, 12R, 1W Series 0.1 Ω ~ 0.91 Ω
- Approved under the ISO-9001 system  
Approved under the QS-9000 system

### ■ Conforming to:

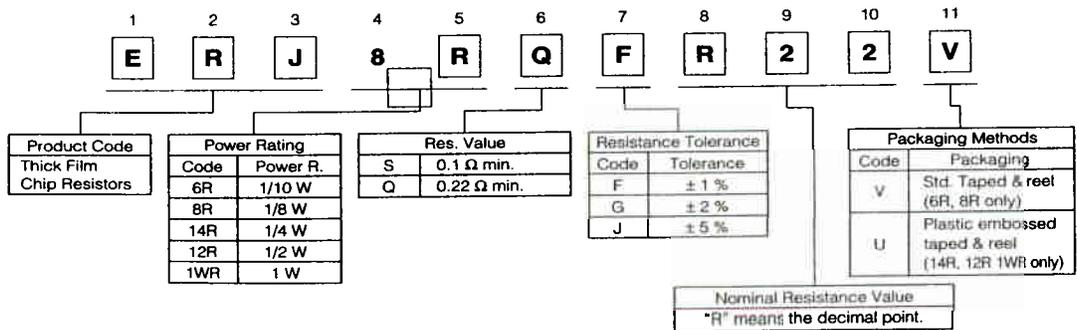
IEC115-8, JIS C5223

### ■ Explanation of Part Numbers (L14, L12, L1W Series)



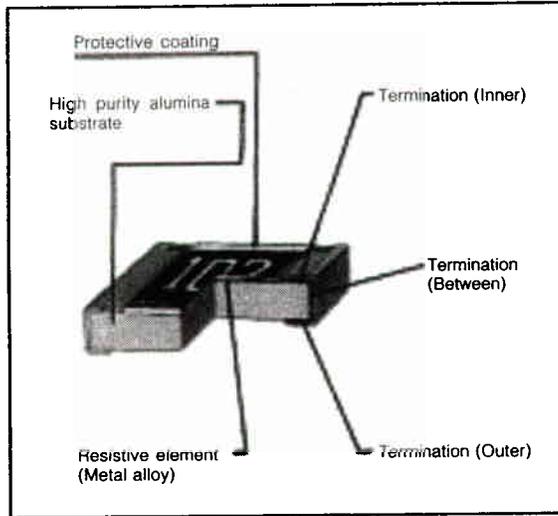
\* When omitted, all the rest P/N factors shall be moved up respectively.

### ■ Explanation of Part Numbers (6R, 8R, 14R, 12R, 1WR Series)

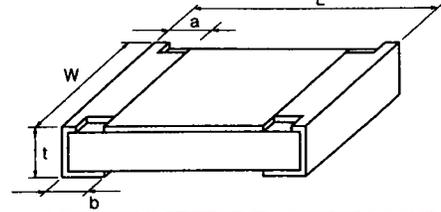


\* When omitted, all the rest P/N factors shall be moved up respectively.

## Construction



## Dimensions in mm (not to scale)



Type	Dimensions (mm)					Weight (1000 pcs.)
	L	W	a	b	t	
ERJ6R	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 g
ERJ8R	3.20 <sup>+0.20</sup>	1.60 <sup>+0.10</sup>	0.50 <sup>+0.20</sup>	0.50 <sup>+0.20</sup>	0.60 <sup>+0.10</sup>	10 g
ERJ14R	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 g
ERJ12R	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 g
ERJ1WR	6.40 <sup>+0.20</sup>	3.20 <sup>+0.20</sup>	0.65 <sup>+0.20</sup>	1.30 <sup>+0.20</sup>	1.10 <sup>+0.10</sup>	79 g
ERJL14	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 g
ERJL12	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 g
ERJL1W	6.40 <sup>+0.20</sup>	3.20 <sup>+0.20</sup>	0.65 <sup>+0.20</sup>	1.30 <sup>+0.20</sup>	1.10 <sup>+0.10</sup>	79 g

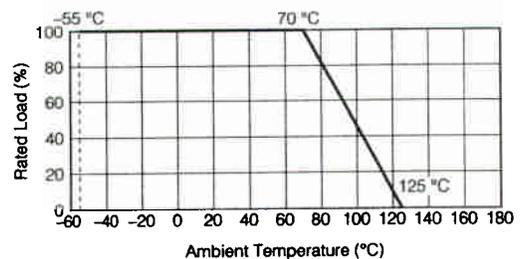
## Ratings

Type	Power Rating at 70 °C	Resistance Tolerance (%)	Resistance Range (Ω)		T.C.R (ppm/°C)	Standard Resistance Values	
			min.	max.			
ERJ6R	1/8 W	±5	S	0.1	0.2	0.1~0.91 Ω : ±250 1.0~9.1 Ω : ±200	E-24
		±1, ±2, ±5	Q	0.22	0.91 (9.1)		
ERJ8R	1/4 W	±5	S	0.1	0.2	0.1~0.91 Ω : ±200 1.0~9.1 Ω : ±100	E-24
		±1, ±2, ±5	Q	0.22	0.91 (9.1)		
ERJ14R	1/4 W	±1, ±2, ±5	S	0.1	0.2	0.1~0.91 Ω : ±200 1.0~9.1 Ω : ±100	E-24
		±1, ±2, ±5	Q	0.22	0.91 (9.1)		
ERJ12R	1/2 W	±1, ±2, ±5	S	0.1	0.2	0.1~0.91 Ω : ±200 1.0~9.1 Ω : ±100	E-24
		±1, ±2, ±5	Q	0.22	0.91 (9.1)		
ERJ1WR	1 W	±1, ±2, ±5	S	0.1	0.2	0.1~0.91 Ω : ±200 1.0~9.1 Ω : ±100	E-24
		±1, ±2, ±5	Q	0.22	0.91 (9.1)		
ERJL14	1/4 W	±1, ±5		47 m	100 m	±100	50mΩ, 100mΩ
ERJL12	1/2 W	±1, ±5		47 m	100 m	±100	50mΩ, 100mΩ
ERJL1W	1 W	±1, ±5		47 m	100 m	±100	50mΩ, 100mΩ

\* Rated Continuous Working Voltage (RCWV) shall be determined from  $RCWV = \sqrt{\text{Power Rating} \times \text{Resistance Values}}$ , or max. RCWV 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 right figure.



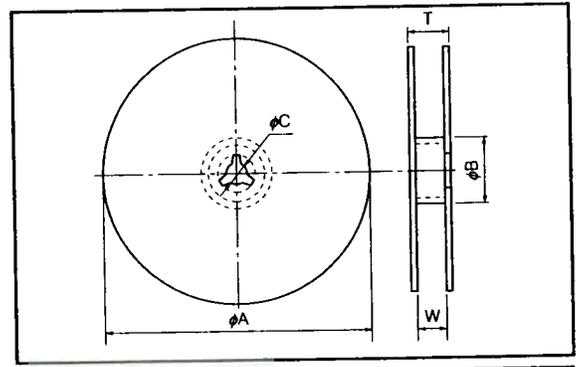
**NEW**

# Panasonic

- Packaging Methods
- Standard Quantity

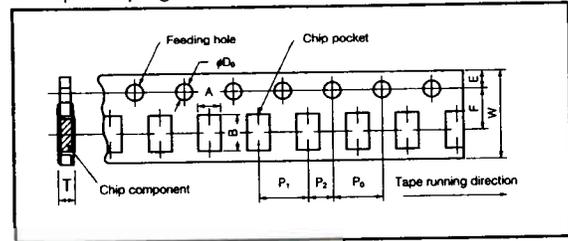
Type	Style		Paper Taping (4 mm pitch)	Embossed Taping (4 mm pitch)
	Thickness			
ERJ6R	0.60		5000	
ERJ8R	0.60		5000	
ERJ14R	0.60			5000 pcs./reel
ERJ12R	0.60			5000 pcs./reel
ERJ1WR	1.10			3000 pcs./reel
ERJL14	0.60			5000 pcs./reel
ERJL12	0.60			5000 pcs./reel
ERJL1W	1.10			3000 pcs./reel

● Taping Reel



Dimensions (mm)	Type	phi A	phi B	phi C	W	T
	6R, 8R	180.0 <sup>+0.30</sup>	60 min.	13.0 <sup>±1.0</sup>	9.0 <sup>±1.0</sup>	11.4 <sup>±2.0</sup>
	14R, L14 12L1W, L12L1W				13.0 <sup>±1.0</sup>	15.4 <sup>±2.0</sup>

● Paper Taping

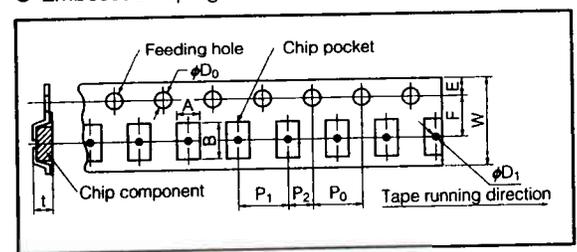


Dimensions (mm)	Type	A	B	W	F	E
	6R	1.60 <sup>±0.15</sup>	2.40 <sup>±0.20</sup>	8.00 <sup>±0.20</sup>	3.50 <sup>±0.05</sup>	1.75 <sup>±0.10</sup>
	8R	1.90 <sup>±0.15</sup>	3.50 <sup>±0.20</sup>			

Dimensions (mm)	Type	P <sub>1</sub>	P <sub>2</sub>	P <sub>0</sub>	phi D <sub>0</sub>	T
	6R	4.00 <sup>±0.10</sup>	2.00 <sup>±0.05</sup>	4.00 <sup>±0.10</sup>	1.50 <sup>±0.10</sup>	0.84 <sup>±0.05</sup>
	8R					

● Embossed Taping



Dimensions (mm)	Type	A	B	W	F	E	P <sub>1</sub>
	14L14	2.80 <sup>±0.20</sup>	3.50 <sup>±0.20</sup>	8.00 <sup>±0.30</sup>	3.50 <sup>±0.15</sup>	1.75 <sup>±0.10</sup>	4.00 <sup>±0.10</sup>
	12L12	3.50 <sup>±0.20</sup>	4.80 <sup>±0.20</sup>				12.0 <sup>±0.30</sup>
	1WL1W	3.60 <sup>±0.20</sup>	6.90 <sup>±0.20</sup>				

Dimensions (mm)	Type	P <sub>2</sub>	P <sub>0</sub>	phi D <sub>0</sub>	t	phi D <sub>1</sub>
	14L14	2.00 <sup>±0.05</sup>	4.00 <sup>±0.10</sup>	1.50 <sup>±0.10</sup>	1.00 <sup>±0.10</sup>	1.00 min.
	12L12				1.60 <sup>±0.10</sup>	1.50 min.
	1WL1W					

Design and Specifications are subject to change without notice. Ask factory for technical specifications before purchase and/or use. Whenever a doubt about safety arises from this product, please contact us immediately for technical consultation.