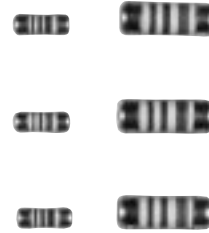


Carbon Film Chip Resistors, Cylindrical Type

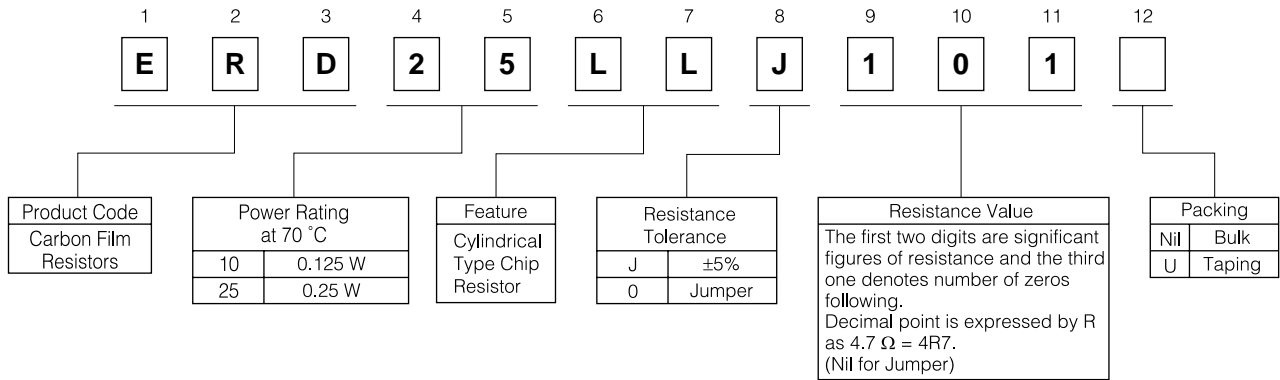
Type: **ERD10LL (0.125 W)**
ERD25LL (0.25 W)



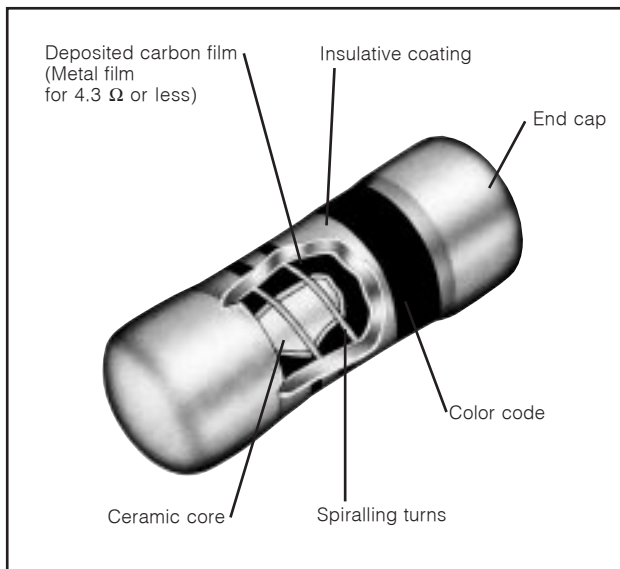
■ Features

- Reliability High reliability by using carbon film
- Mountability Taping or bulk style for automatic placement machine
- Soldering Suitable for both flow and re-flow soldering
- Marking 3 color code marking
- Approved under the ISO 9001 system
- Reference Standard ... IEC 60115-8, JIS C 5201-8

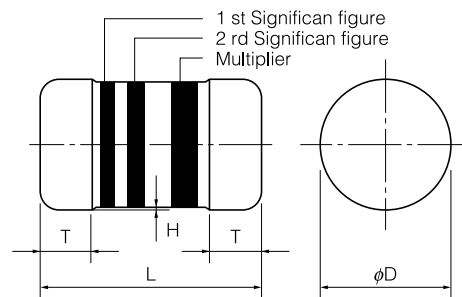
■ Explanation of Part Numbers



■ Construction ERD10LL, 25LL



■ Dimensions in mm (not to scale)



Type	L	φD	T	H
ERD10LL	3.45 ^{+0.10} _{-0.05}	1.35 ^{+0.10} _{-0.05}	0.5 min.	0.1 max.
ERD25LL	5.90 ^{+0.10} _{-0.15}	2.20 ^{+0.05} _{-0.10}	0.6 min.	0.15 max.

■ Ratings

Type	Power Rating (W) at 70°C	Limiting Element Voltage (Maximum RCWV ⁽¹⁾) (V)	Maximum Overload Voltage ⁽²⁾ (V)	Maximum Dielectric Withstanding Voltage (VAC)	Resistance Tolerance (%)	Resistance Range (Ω)		Standard Resistance Values	Number of Color Bands	Mass. (mg)
						min.	max.			
ERD10LL	0.125	200	300	250	J(±5)	1	1.5 M	E24	3	17
ERD10LL0	Rated Current: 2 A Resistance Value: lower than 10 mΩ								Nil	
ERD25LL	0.25	250	500	500	J(±5)	1	2.2 M	E24	3	66
ERD25LL0	Rated Current: 2 A Resistance Value: lower than 10 mΩ								Nil	

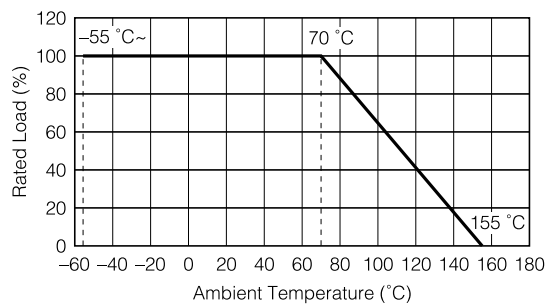
(1) Rated Continuous Working Voltage (RCWV) shall be determined from $RCWV = \sqrt{\text{Rated Power} \times \text{Resistances Value}}$, or Limiting Element Voltage (maximum RCWV) listed as above, whichever less.

(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 right figure.

ERD10LL, 25LL



■ Performance Specifications

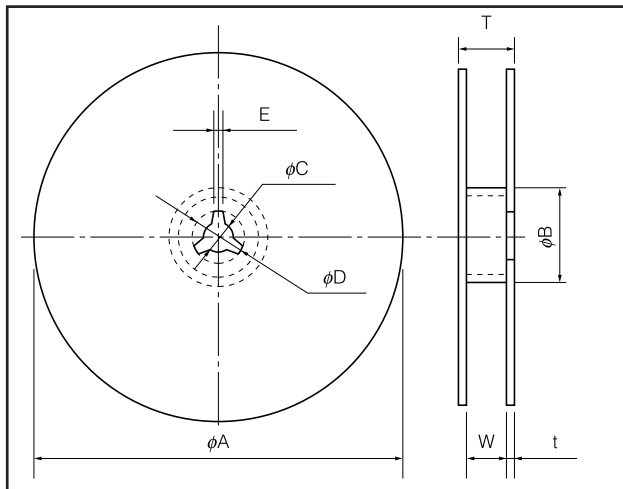
Characteristics	Specifications				Test Methods (JIS C 5201-1)
	ERD10LL		ERD25LL		
T.C.R. ×10 ⁻⁶ /°C (ppm/°C)	1 Ω to 910 Ω	±350	1 Ω to 4.3 Ω	±350	Resistance value at room temperature and room temperature +100°C
	1 kΩ to 62 kΩ	-150 to -500	4.7 Ω to 51 kΩ	-150 to -300	
	68 kΩ to 200 kΩ	-150 to -700	56 kΩ to 430 kΩ	-150 to -500	
	220 kΩ to 510 kΩ	-150 to -1000	470 kΩ to 910 kΩ	-150 to -700	
	560 kΩ to 1.5 MΩ	-150 to -1300	1 MΩ to 2.2 MΩ	-150 to -1000	

■ Packaging Method

● Standard Quantity

Type	Embossed taping	Bulk
ERD10LL	3000 pcs./reel	2000 pcs./bag
ERD25LL	1500 pcs./reel	1000 pcs./bag

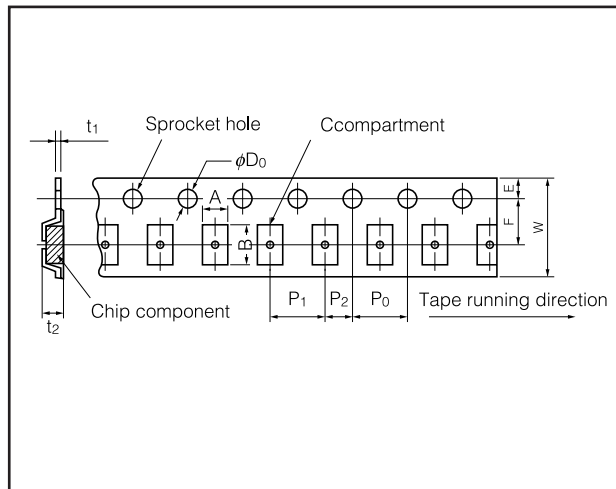
● Taping Reel



Dimensions (mm)	Type	φA	φB	φC	φD
	10LL	178±2	50 min.	13.0±0.5	21.0±0.5
	25LL				

Dimensions (mm)	Type	E	W	T	t
	10LL	2.0±0.5	10.0 ^{+0.5} _{-1.0}	15.5 max.	2.0±0.5
	25LL		14.0±1.5	20.5 max.	

● Embossed Taping



Dimensions (mm)	Type	A	B	W	F	E	P ₁
	10LL	1.65±0.20	3.8±0.2	8.0±0.3	3.50±0.05	1.75±0.10	4.0±0.1
	25LL	2.50±0.20	6.2±0.2	12.0±0.3	5.50±0.05		

Dimensions (mm)	Type	P ₂	P ₀	φD ₀	t ₁	t ₂
	10LL	2.00±0.05	4.0±0.1	1.5 ^{+0.1} ₀	0.25±0.05	2 max.
	25LL				0.30±0.05	3.1 max.

⚠ Cautions for Safety

1. Rated Power and Ambient Temperature

Keep the rated power and ambient temperature within the specified derating curve.

* Place and fit resistors and other heating components on board, taking into consideration of temperature rise due to approaching of these components with each other.

2. External Shock

Mechanical shock during automatic mounting or handling of board after chip being mounted may cause break, flaw or fall-off of paint film of resistor that may impair initial characteristics.

Avoid nipping of resistor with hard tool (a pair of pliers or tweezers) as it may damage protective film or electrode of resistor and may affect resistor's performance.

3. Application of Pulse

When pulse is applied to a resistor, the peak value of the pulse shall be within rated value.

4. Adhesive

When fixing resistor with adhesive, carefully check reliability of the adhesive, as it may affect characteristics of the resistor.

This catalog shows the quality and performance of a unit component. For quality assurance, exchange the delivery specification with us. Before adoption, be sure to evaluate and verify the product mounting in your product.