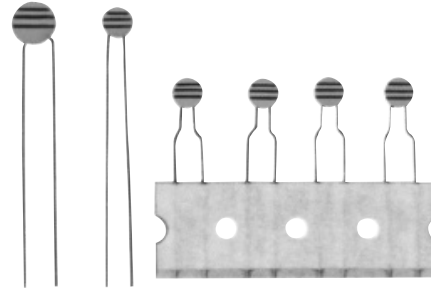


Disc Type NTC Thermistors

Type: **ERTD**



The "Type ERTD" are disc type negative temperature coefficient thermistors. Resistances are available from 8 Ω to 150 kΩ and B Values are from 3000 K to 5000 K. The thermistors are designed for temperature detection and temperature compensation, featuring excellent electrical and thermal stability.

■ Features

- Wide selection of temperature coefficients
- Excellent electrical and thermal stability
- RoHS compliant

■ Recommended Applications

- Temperature detection
- Temperature compensation for measuring instruments
- Temperature compensation for deflection coil in TV

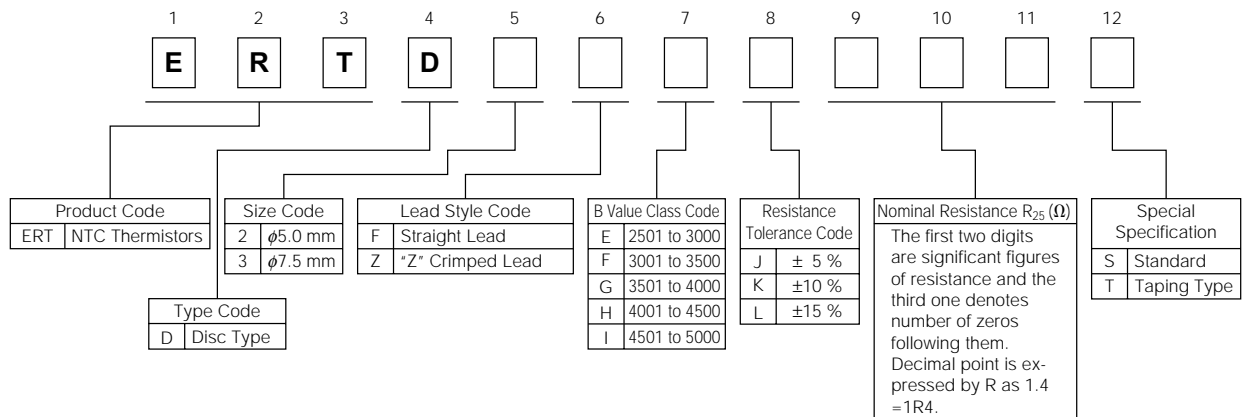
■ Handling Precautions

See Page 164

■ Packaging Specifications

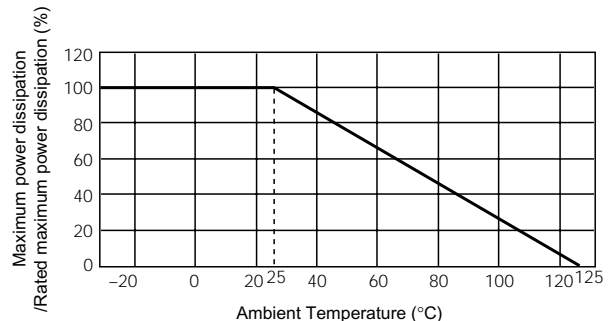
See Page 168

■ Explanation of Part Numbers



■ Derating Curve for the NTC Thermistor

For the NTC Thermistor operated in ambient temperatures above 25 °C, power rating shall be derated in accordance with the figure on the right.



■ Ratings and Characteristics

Part No.	Zero-Power Resistance at 25 °C(Ω)	B Value** (K)	Rated Maximum Power Dissipation (W)	Dissipation Factor (mW/°C)	Thermal Time Constant (s)	Resistance Ratio R ₂₅ /R ₅₀	Table A/B Curve No.
ERTD2FE□*200S	20	3000				2.18	—
ERTD2FF□*400S	40	3200				2.30	—
ERTD2FG□*750S	75	3700				2.62	1
ERTD2FF□*101S	100	3500				2.48	—
ERTD2FG□*101S	100	3700				2.62	2
ERTD2FG□*171S	170	3700				2.62	3
ERTD2FF□*251S	250	3500				2.48	—
ERTD2FG□*251S	250	3900				2.76	4
ERTD2FG□*301S	300	3900				2.76	—
ERTD2FF□*351S	350	3500				2.48	5
ERTD2FG□*601S	600	4000				2.83	6
ERTD2FG□*801S	800	3900	0.4	4.5	20	2.76	7
ERTD2FG□*102S	1000	3700				2.61	—
ERTD2FG□*142S	1400	3900				2.76	—
ERTD2FG□*202S	2000	4000				2.83	8
ERTD2FG□*332S	3300	4000				2.83	9
ERTD2FH□*462S	4600	4100				2.90	—
ERTD2FH□*802S	8000	4100				2.90	10
ERTD2FH□*103S	10000	4100				2.90	—
ERTD2FH□*153S	15000	4200				2.98	11
ERTD2FH□*333S	33000	4500				3.22	12
ERTD2FH□*503S	50000	4500				3.22	13
ERTD2FI□*154S	150000	4800				3.48	14
ERTD3FE□*8R0S	8	3000				2.18	15
ERTD3FF□*130S	13	3200				2.30	16
ERTD3FF□*160S	16	3200				2.30	—
ERTD3FF□*200S	20	3200				2.30	—
ERTD3FF□*300S	30	3200				2.30	—
ERTD3FF□*400S	40	3200				2.30	—
ERTD3FG□*750S	75	3700	0.6	7.0	27	2.62	—
ERTD3FG□*800S	80	3700				2.62	—
ERTD3FG□*131S	130	3700				2.62	—
ERTD3FG□*501S	500	4000				2.83	—
ERTD3FH□*402S	4000	4100				2.90	—
ERTD3FH□*203S	20000	4500				3.22	—
ERTD3FI□*803S	80000	5000				3.70	17

* Resistance Tolerance Code

J	K	L
±5 %	±10 %	±15 %

● Operating Temperature Range: -30 to +125 °C

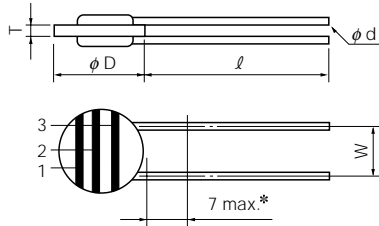
** Tolerance of "B value": ±10 %

$$B = \frac{\ln(R_{25}/R_{50})}{1/298.15 - 1/323.15}$$

R₂₅=Resistance at 25.0 °C
R₅₀=Resistance at 50.0 °C

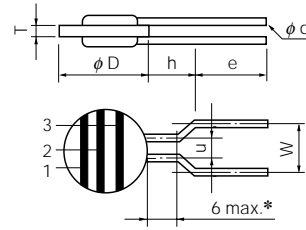
■ Dimensions in mm (not to scale)

Straight Lead Type
F Type



*Coating extension on leads

Crimped Lead Type
Z Type



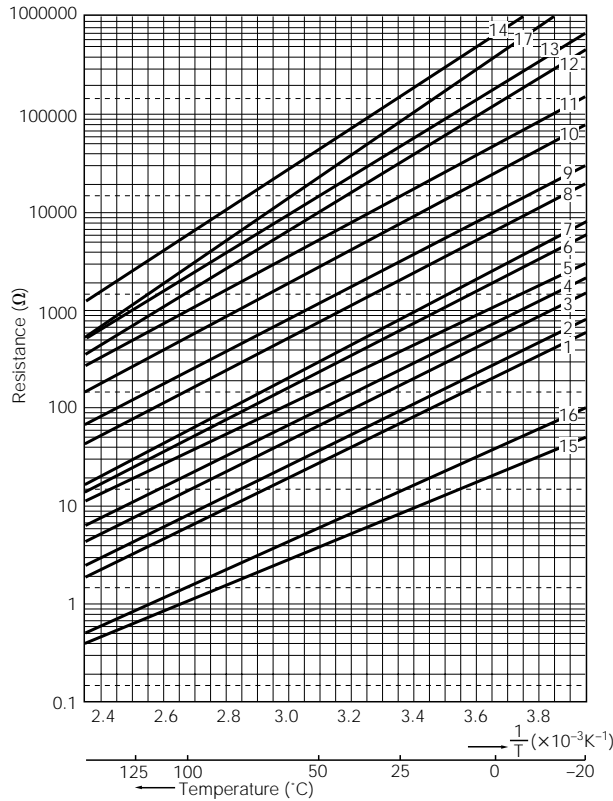
F Type

	ϕD	T	ℓ	W	ϕd
D2	5.0 ± 0.5	1.3 ± 0.5	30.0 min.	2.5 ± 1.0	0.4
D3	7.5 ± 0.5	1.4 ± 0.5	30.0 min.	5.0 ± 1.0	0.5

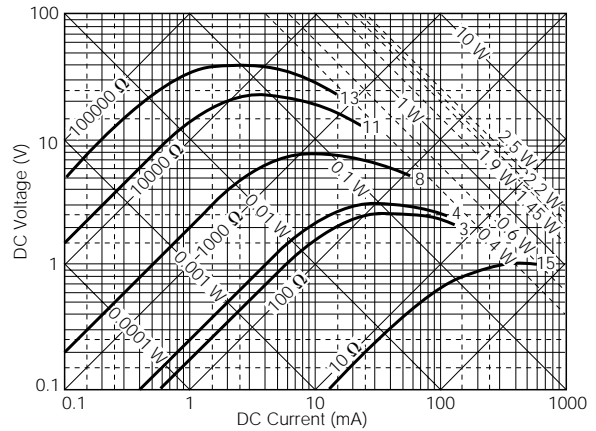
Z Type

	ϕD	T	u	e	h	W	ϕd
D2	5.0 ± 0.5	1.3 ± 0.5	3.0 max. (nom. 2.5)	4.5 ± 1.0	6.0 max. (nom. 5.0)	5.0 ± 1.0	0.5

■ Resistance vs. Temperature (Table A)



■ Voltage vs. Current (Table B)

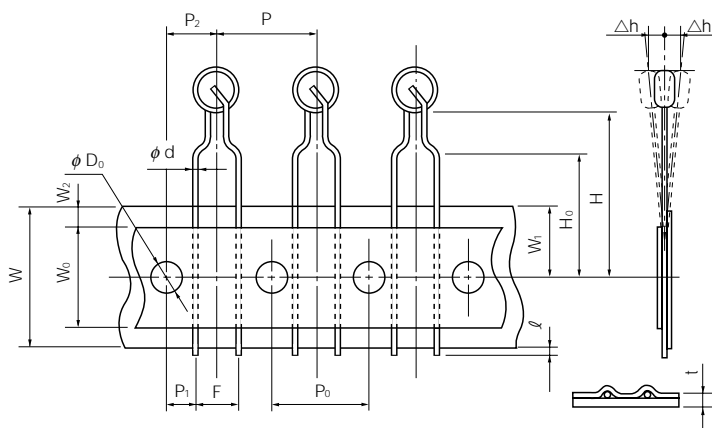


■ Resistance Color Code

Color	Code	1(1st Digit)	2(2nd Digit)	3(Multiplier)
Black		0	0	10^0
Brown		1	1	10^1
Red		2	2	10^2
Orange		3	3	10^3
Yellow		4	4	10^4
Green		5	5	10^5
Blue		6	6	10^6
Purple		7	7	10^7
Gray		8	8	10^8
White		9	9	10^9
Gold		—	—	10^{-1}
Silver		—	—	10^{-2}

■ Taping Dimensions in mm (not to scale)

Taping Type



P	12.7±1.0
P ₀	12.7±0.3
P ₁	3.85±0.70
P ₂	6.35±1.30
φd	0.50±0.05
F	5.0±1.0
Δh	0±5.0
W	18.0 ^{+1.0} _{-0.5}
W ₀	12.5 min.
W ₁	9.00 ^{+0.75} _{-0.50}
W ₂	3.0 max.
H	21.0±2.0
H ₀	16.0±0.5
l	2.0 max.
φD ₀	4.0±0.3
t	0.5±0.2