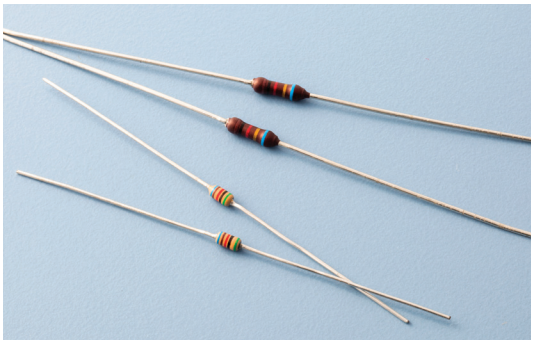
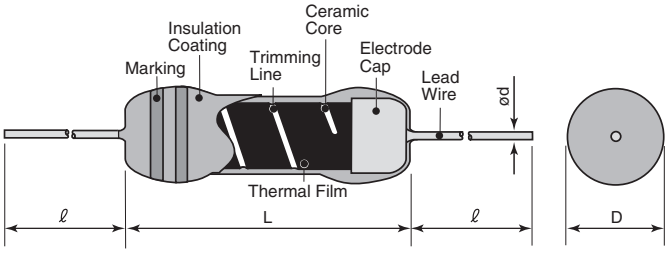


features

- LP series is thin-film thermal sensors and accomodates resistance tolerance ±1% and high T.C.R. +5000×10^{-6}/K with the standard products
- Suitable for control of temperatures for various industrial equipment
- Products meet EU RoHS requirements

EU RoHS COMPLIANT

dimensions and construction



Type	Dimensions inches (mm)			
	L	D	d (Nom.)	l
LP 1/16	.138$^{+.008}_{-.016}$ (3.5$^{+0.2}_{-0.4}$)	.067±.008 (1.7±0.2)	.020±.002 (0.5±0.05)	1.18±.118 (30±3)
LP 1/8	.25±.031 (6.35±0.8)	.090±.008 (2.3±0.2)	.026±.002 (0.65±0.05)	1.50±.118 (38±3)

ordering information

LP	1/8	C	T26	A	103	J	362
Product Code	Power Rating	Termination Surface Material	Taping	Packaging	Nominal Resistance	Resistance Tolerance	Symbol of T.C.R.
	1/16: 0.063W 1/8: 0.125W	C: SnCu	Nil: Bulk T26: 26mm Taping T52: 52mm Taping	Nil: Bulk A: AMMO	3 digits	F: ±1% G: ±2% J: ±5%	3 digits 151: 150 362: 3600

applications and ratings

Type	Power Rating	Thermal Time Constant	Thermal Dissipation Constant*	Rated Ambient Temperature	Operating Temperature Range
LP1/16C	0.063W	8s	2.5mW/°C	+70°C	–55°C–150°C
LP1/8C	0.125W	14s	4.5mW/°C		

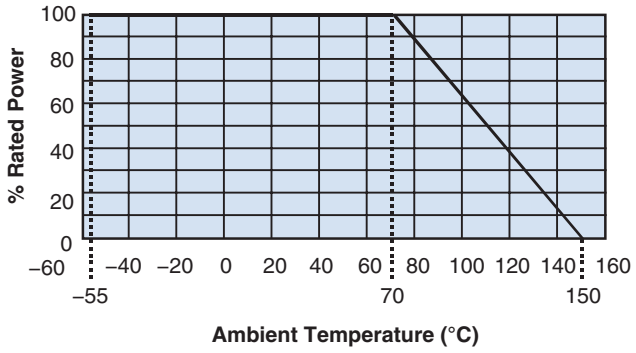
* Thermal time constant and dissipation constant are reference values, which are values of elements and vary with connecting or fixing methods.

T.C.R. (×10^{-6}/K)	T.C.R. Tolerance	(Ω) Resistance Range (E24 & 2.5, 5.0×10^{n})					
		LP1/16			LP1/8		
		F:±1%	G:±2%	J:±5%	F:±1%	G:±2%	J:±5%
150, 250, 350	±50×10^{-6}/K	–	150–10k	150–10k	–	150–51k0	150–51k0
450			150–30k	150–30k		150–100k	150–100k
550, 650, 750, 850	±10%						
950, 1000, 1200							
1400, 1600, 1800							
2000, 2200, 2400							
2500	±5%	100–30k	10–30k	1–30k	100–100k	10–100k	1–100k
3000		100–10k	10–10k	1–10k			
3300							
3600					100–51k	10–51k	1–51k
4000, 4500, 5000					100–20k	10–20k	1–20k

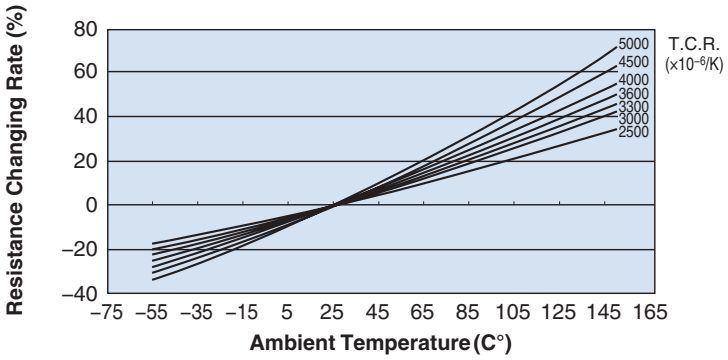
T.C.R. Measuring Temperature: +25°C/+65°C. T.C.R. is guaranteed by random inspections.

environmental applications

Derating Curve



Examples of Temp. Characteristics of Resistance



Approximate Expression for Resistance- Temperature Characteristics

Values are not guaranteed but typical.

$R_T=R_{25}(C_0+C_1T+C_2T^2)$

R_T: T°C
R_{25}: 25°C
T: (°C)
C_0, C_1, C_2:

R_T: Resistance value at T°C
R_{25}: Resistance value at 25°C
T: Ambient temperature (°C)
C_0, C_1, C_2: Constants

T.C.R. (×10⁻⁶/K)	C_0	C_1	C_2
3000	0.931258	0.00265213	3.90112×10^{-6}
3300	0.924355	0.00292569	4.00516×10^{-6}
3600	0.916356	0.00323714	4.34428×10^{-6}
4000	0.907039	0.00361006	4.33457×10^{-6}
4500	0.897412	0.00395222	6.05201×10^{-6}
5000	0.886014	0.00437224	7.48809×10^{-6}

thermal sensors

Performance Characteristics

Test Items	Performance Requirements ΔR± (%+0.05Ω)		Test Methods
	Limit	Typical	
Resistance	Within specified tolerance	—	25°C
T.C.R.	Within specified T.C.R.	—	+25°C/+65°C
Overload (Short time)	0.5%	0.2%	Rated voltage × 2.5 for 5 seconds
Resistance to Soldering Heat	0.5%	0.2%	350°C±10°C, 1 second
Rapid Change of Temperature	0.5%	0.2%	–55°C (30min.) /+25°C (10min.)/ +150°C (30min.)/+25°C (10min.) 5 cycles
Moisture Resistance	2%	0.3%	40°C±2°C, 90%–95%RH,1000h 1.5h ON/0.5h OFF cycle
Endurance at 70°C	2%	0.5%	70°C±3°C, 1000h 1.5h ON/0.5h OFF cycle