

Thick Film Linear Positive Tempco Thermistor LA73 Type

ISO 9001:2000
CERTIFIED
TS-16949
CERTIFIED

1. Features

- Anti-leaching nickel barrier terminations
- Twenty-five specifiable temperature characteristics
- Products with lead-free terminations meet EU-RoHS requirements. Pb located in glass material, electrode and resistor element is exempt per Annex 1, exemption 5 of EU directive 2005/95/EC
- Marking: Black three-digit on orange body color

2. Dimensions

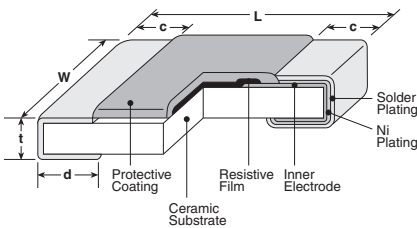
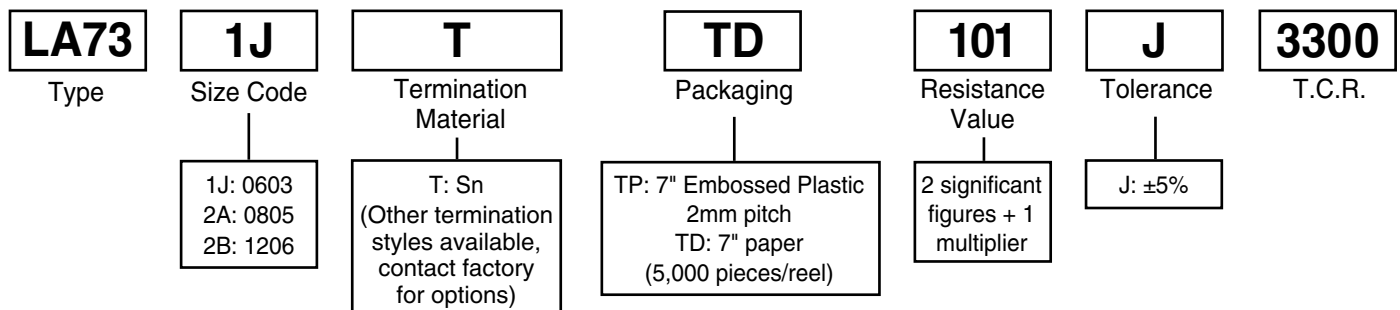


Table 1

Dimensions - inches (mm)					
Part	L	W	c	d	t
1J (0603)	0.063±0.008 (1.6±0.2)	0.031±0.004 (0.8±0.1)	0.012±0.004 (0.3±0.1)	0.012±0.004 (0.3±0.1)	0.02±0.004 (0.5±0.1)
2A (0805)	0.079±0.008 (2.0±0.2)	0.049±0.004 (1.25±0.1)	0.016±0.008 (0.4±0.2)	0.012± ^{+0.008} _{-0.004} (0.3± ^{+0.2} _{-0.1})	0.02±0.004 (0.5±0.1)
2B (1206)	0.126±0.008 (3.2±0.2)	0.063±0.008 (1.6±0.2)	0.02±0.008 (0.5±0.3)	0.016± ^{+0.008} _{-0.004} (0.4± ^{+0.2} _{-0.1})	0.024±0.004 (0.6±0.1)

3. Type Designation

The type designation shall be in the following form:



4. Standard Applications

Table 1

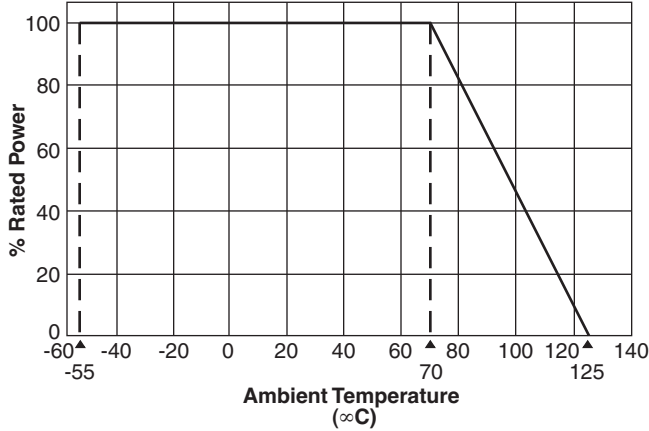
Part Designation	Thermal Dissipation Constant (mW/°C)	Rated Ambient Temp.	Operating Temp. Range
LA731J	7.6	+70°C	-55°C to +125°C
LA732A	8.2		
LA732B	9.0		

Table 2

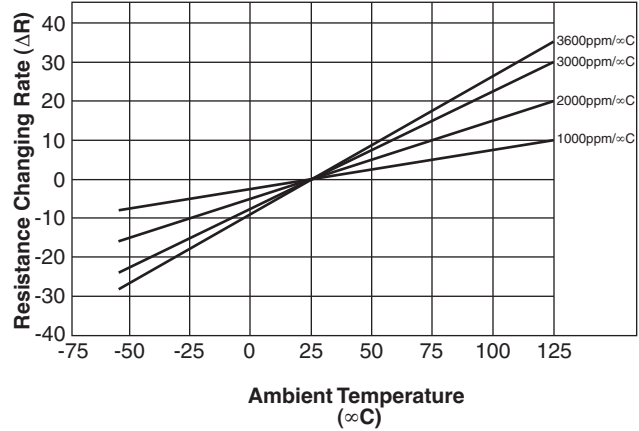
Resistance Range E-12			Resistance Tolerance	T.C.R. (ppm/°C) Max.	T.C.R. Tolerance	
LA731J	LA732A	LA732B				
1KΩ - 10KΩ	1KΩ - 10KΩ	1KΩ - 10KΩ	J: ±5%	1000	±100ppm/°C	
680Ω - 6.8KΩ	680Ω - 6.8KΩ	680Ω - 6.8KΩ		1200		
470Ω - 4.7KΩ	470Ω - 4.7KΩ	470Ω - 4.7KΩ		1400		
470Ω - 3.9KΩ	470Ω - 3.9KΩ	470Ω - 3.9KΩ		1600		
330Ω - 2.7KΩ	330Ω - 2.7KΩ	330Ω - 2.7KΩ		1800		
330Ω - 2.7KΩ	330Ω - 2.7KΩ	330Ω - 2.7KΩ		2000		
220Ω - 1.8KΩ	220Ω - 1.8KΩ	220Ω - 1.8KΩ		2200		
100Ω - 1.2KΩ	100Ω - 1.2KΩ	100Ω - 1.2KΩ		2400		
100Ω - 1.2KΩ	100Ω - 1.2KΩ	100Ω - 1.2KΩ		2600		±5%
100Ω - 390Ω	100Ω - 390Ω	100Ω - 390Ω		2800		
68Ω - 220Ω	68Ω - 220Ω	68Ω - 220Ω		3000		
33Ω - 120Ω	33Ω - 120Ω	33Ω - 120Ω		3300		
22Ω - 82Ω	22Ω - 82Ω	22Ω - 82Ω		3600		

6. Environmental Applications

6.1 Derating Curve



6.2 Temperature Characteristics



7. Approximate Expression for Resistance-Temperature Characteristics

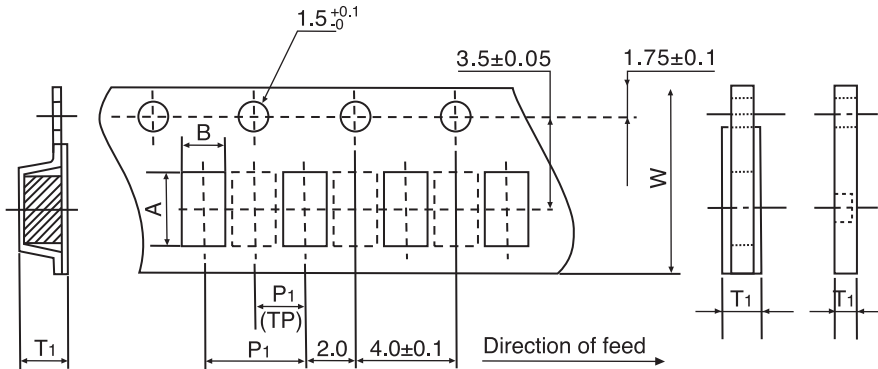
T.C.R. (x10 ⁻⁶ /K)	C ₀	C ₁	C ₂
3000	0.926	0.00294	1.1 x 10 ⁻⁷
3300	0.918	0.00325	4.1 x 10 ⁻⁷
3600	0.910	0.00359	1.7 x 10 ⁻⁷

(Values are not guaranteed but typical)
 $R_T = R_{25} (C_0 + C_1 T + C_2 T^2)$
 R_T : Resistance value at T°C
 R_{25} : Resistance value at 25°C
 T: Ambient temperature (°C)
 C₀, C₁, C₂: Constants

8. Characteristics

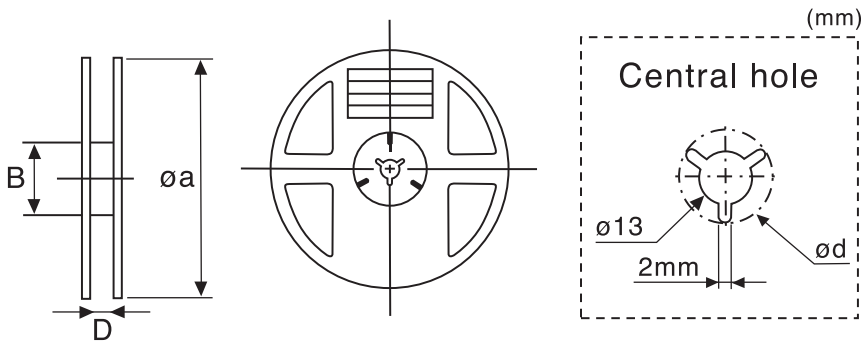
Parameter	Requirement Δ R	Test Method
Resistance	Within regulated tolerance	25°C
T.C.R.	Within specified T.C.R.	+25°C/+75°C
Short Time Overload	±(1.0% + 0.1Ω): 1J, 2A, 2B	Rated voltage x 2.5 or max. working voltage x 2 for 5 seconds, whichever is less
Resistance to Solder Heat		260°C ± 5°C, 10 seconds ± 1 second
Solderability	95% coverage minimum	235°C ± 5°C, 2 seconds ± 0.5 seconds
Bending Test	±(1.0% + 0.1Ω): 1J, 2A, 2B	Width of holding point 90mm, bending 3mm, 1 time
Temperature Cycling		-55°C (30 minutes), +125°C (30 minutes), 100 cycles
Moisture Resistance	±(3.0% + 0.1Ω): 1J, 2A, 2B	40°C ± 2°C, 90 - 95% RH, 1000 hours, rated voltage load
Load Life		70°C ± 3°C, 1000 hours, rated voltage load

9. Packaging Specifications



(Notes) Dotted lines are applicable to only "TP."

Dimensions - inches (mm)					
Style	A	B	W	P ₁	T ₁
2A	0.75±0.004 (1.9±0.1)	0.043±0.004 (1.1±0.1)	0.31±0.008 (8.0±0.2)	0.16±0.004 (4.0±0.1)	0.024+0.008/-0 (0.6+0.2/-0)
2B	0.94±0.008 (2.4±0.2)	0.065±0.008 (1.65±0.2)			0.03+0.008/-0 (0.75+0.2/-0)
1J	0.45±0.004 (1.15±0.1)	0.026±0.004 (0.65±0.1)		0.78±0.002 (2.0±0.05)	0.018+0.004/-0 (0.45+0.1/-0)



(Notes) Reel holes, shapes and design are examples

Dimensions - inches (mm)						
Style	Tape		øa	B	D	ød
2A	Punched Carrier	TD	7±.078 (178±2)	2.36±.078 (60±2)	0.35±.059 (9±1.5)	.83 (21)
2B						
1J						