KOA SPEER ELECTRONICS, INC.

LT73

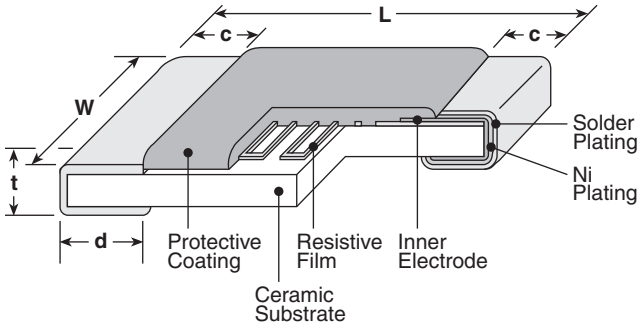
linear positive tempco thermistor

EU RoHS COMPLIANT

features

- Anti-leaching nickel barrier terminations
- Twenty-five specifiable temperature characteristics
- SMD thin film resistor with thermo-perceptivity
- Marking: Black four-digit on bronze body color
- Products with lead-free terminations meet EU RoHS and China RoHS requirements

dimensions and construction



Type (Inch Size Code)	Dimensions inches (mm)				
	L	W	c	d	t
2A (0805)	.079±.008 (2.0±0.2)	.049±.008 (1.25±0.2)	.016±.008 (0.4±0.2)	.012 +.008 -.004 (0.3 +0.2 -0.1)	.02±.004 (0.5±0.1)
2B (1206)	.126±.008 (3.2±0.2)	.063±.008 (1.6±0.2)	.02±.008 (0.5±0.3)	.016 +.008 -.004 (0.4 +0.2 -0.1)	.024±.004 (0.6±0.1)

ordering information

New Part #

LT73	2B	T	TD	101	J	1000
Type	Size Code	Termination Material	Packaging	Resistance Value	Tolerance	T.C.R.
	2A: 0805 2B: 1206	T: Sn (Other termination styles available, contact factory for options)	TD: 7" paper taping (5,000 pieces/reel) TE: 7" embossed plastic (4,000 pieces/reel)	2 significant figures + 1 multiplier	G: ±2% J: ±5%	

For further information on packaging, please refer to Appendix A.

applications and ratings

Part Designation	Power Rating @ 70°C	Absolute Maximum Working Voltage	Absolute Maximum Overload Voltage	Thermal Time Constant
LT732A	100mW	50V	100V	1.0 second
LT732B	125mW	75V	150V	1.5 seconds

Resistance Range E-24*		Resistance Tolerance	T.C.R. (ppm/°C)**	T.C.R. Tolerance
LT732A	LT732B			
2KΩ - 24KΩ	2KΩ - 51KΩ	G: ±2%	150, 250, 350, 450, 500	±100ppm/°C
1KΩ - 20KΩ	1KΩ - 43KΩ	J: ±5%	600, 700, 800, 900	±150ppm/°C
1KΩ - 13KΩ	1KΩ - 27KΩ		1000, 1200, 1400	±15%
510Ω - 4.7KΩ	1KΩ - 10KΩ		1600, 1800	
510Ω - 4.7KΩ	510Ω - 9.1KΩ		2000, 2200, 2400	±10%
510Ω - 3.0KΩ	510Ω - 6.2KΩ		2600, 2800	
510Ω - 3.0KΩ	510Ω - 6.2KΩ		3000, 3300, 3600	
510Ω - 3.0KΩ	510Ω - 6.2KΩ		3900	
100Ω - 1KΩ	100Ω - 2KΩ		4200	
51Ω - 510Ω	51Ω - 510Ω		4500	

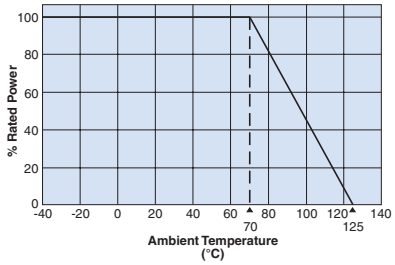
Operating Temperature Range: -40°C to +125°C

* See Appendix D for available decade values.

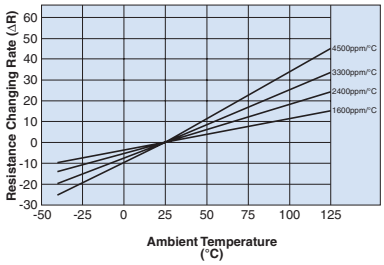
** T.C.R. is factory tested from 25°C to 75°C.

environmental applications

Derating Curve



Examples of Temperature Characteristics of Resistance



Approximate Expression for Resistance-Temperature Characteristics

T.C.R. ($x10^{-6}$/K)	C_0	C_1	C_2
3000	0.9288	0.0028	1.9983×10^{-6}
3300	0.9232	0.0030	2.9980×10^{-6}
3600	0.9175	0.0032	4.0000×10^{-6}
3900	0.9099	0.0035	4.0064×10^{-6}
4200	0.9026	0.0038	3.9964×10^{-6}
4500	0.8948	0.0041	4.0064×10^{-6}

Performance Characteristics

Parameter	Requirement Δ R ±(% + 0.05Ω) Limit	Typical	Test Method
Resistance	Within specified tolerance	—	25°C
T.C.R.	Within specified T.C.R.	—	+25°C/+75°C
Overload (Short time)	±1.0%	±0.23%	Rated voltage x 2.5 or maximum overload volume for 5 seconds, whichever is lower
Resistance to Solder Heat	±1.0%	±0.1%	260°C ± 5°C, 10 seconds ± 1 second
Rapid Change of Temperature	±1.0%	±0.1%	-40°C (30 minutes)/ +125°C (30 minutes), 5 cycles
Moisture Resistance	±3.0%	±0.54%	40°C ± 2°C, 90 - 95% RH, 1000 hours, 1.5 hr ON, 0.5 hr OFF cycle
Endurance at 70°C	±3.0%	±0.62%	70°C ± 2°C, 1000 hours, 1.5 hr ON, 0.5 hr OFF cycle

Confirming resistance drift is recommended since this product has a tendency to have bigger resistance change than general flat chip over 70°C.
Please pay attention not to be applied ESD, it may cause of resistance change.

Actual Value (Out of Guarantee)

Test Items	Reference	Test Method
Low Temperature Exposure	±0.05%	-40°C, 45 minutes
High Temperature Exposure	±0.6%	125°C, 1000 hours
ESD	500V	Human model, 100 pF 1.5 kΩ

Specifications given herein may be changed at any time without prior notice. Please confirm technical specifications before you order and/or use. 11/13/09