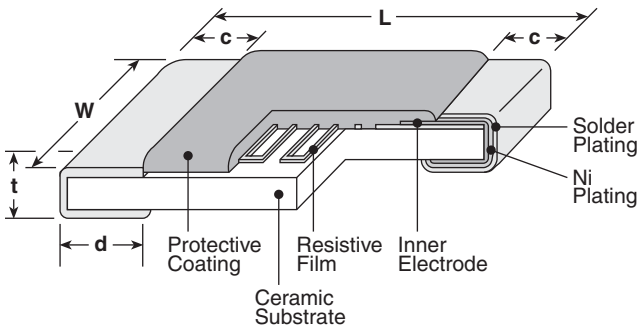




### features

- Anti-leaching nickel barrier terminations
- Twenty-five specifiable temperature characteristics
- SMD thin film resistor with thermo-perceptivity
- 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
<b>2A (0805)</b>	.079±.008 (2.0±0.2)	.049±.008 (1.25±0.2)	.016±.008 (0.4±0.2)	.012 <sup>+0.008</sup> <sub>-.004</sub> (0.3 <sup>+0.2</sup> <sub>-.01</sub> )	.02±.004 (0.5±0.1)
<b>2B (1206)</b>	.126±.008 (3.2±0.2)	.063±.008 (1.6±0.2)	.02±.008 (0.5±0.3)	.016 <sup>+0.008</sup> <sub>-.004</sub> (0.4 <sup>+0.2</sup> <sub>-.01</sub> )	.024±.004 (0.6±0.1)

thermal sensors

### ordering information

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

### applications and ratings

Part Designation	Power Rating	Maximum Working Voltage	Maximum Overload Voltage	Thermal Time Constant	Thermal Dissipation Constant	Rated Ambient Temperature	Operating Temperature Range
LT732A	0.1W	50V	100V	1.0s	1.37mW/°C	+70°C	-40°C to +125°C
LT322B	0.125W	75V	150V	1.5s	1.47mW/°C		

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

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

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

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## applications and ratings

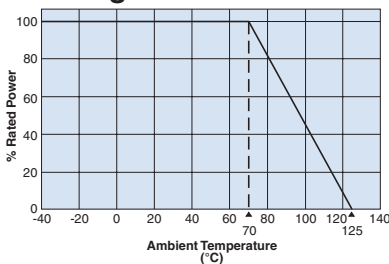
T.C.R. ( $\times 10^{-6}/K$ )	T.C.R. Tolerance	Resistance Range E-24		Resistance Tolerance
		LT732A	LT732B	
150, 250, 350, 450, 500	$\pm 100 \times 10^{-6}/K$	2k $\Omega$ - 24k $\Omega$	2k $\Omega$ - 51k $\Omega$	G: $\pm 2\%$
600, 700, 800, 900	$\pm 150 \times 10^{-6}/K$	1k $\Omega$ - 20k $\Omega$	1k $\Omega$ - 43k $\Omega$	J: $\pm 5\%$
1000, 1200, 1400	$\pm 15\%$	1k $\Omega$ - 13k $\Omega$	1k $\Omega$ - 27k $\Omega$	
1600, 1800		510 $\Omega$ - 4.7k $\Omega$	1k $\Omega$ - 20k $\Omega$	
2000, 2200, 2400	$\pm 10\%$	510 $\Omega$ - 4.7k $\Omega$	510 $\Omega$ - 9.1k $\Omega$	
2600, 2800, 3000		510 $\Omega$ - 3.0k $\Omega$	510 $\Omega$ - 6.2k $\Omega$	
3300, 3600, 3900		510 $\Omega$ - 3.0k $\Omega$	510 $\Omega$ - 6.2k $\Omega$	
4200		100 $\Omega$ - 1k $\Omega$	100 $\Omega$ - 2k $\Omega$	
4500		51 $\Omega$ - 510 $\Omega$	51 $\Omega$ - 510 $\Omega$	

T.C.R. Measuring Temperature:  $+25^{\circ}C \sim +75^{\circ}C$

Rated voltage =  $\sqrt{\text{Power Rating} \times \text{Resistance value}}$  or Max. working voltage, whichever is lower.

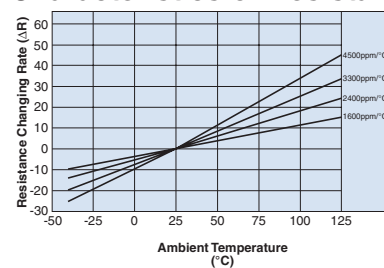
## environmental applications

### Derating Curve



For resistors operated at an ambient temperature of  $70^{\circ}C$  or above, a power rating shall be derated in accordance with the above derating curve.

### Examples of Temperature Characteristics of Resistance



### Approximate Expression for Resistance-Temperature Characteristics

Values are not guaranteed but typical.

$R_T = R_{25} (C_0 + C_1 T + C_2 T^2)$   $R_T$ :  $T^{\circ}C$   $R_T$ : Resistance value at  $T^{\circ}C$   
 $R_{25}$ :  $25^{\circ}C$   $R_{25}$ : Resistance value at  $25^{\circ}C$   
 $T$ : ( $^{\circ}C$ )  $T$ : Ambient temperature ( $^{\circ}C$ )  
 $C_0, C_1, C_2$ :  $C_0, C_1, C_2$ : Constants

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

## Performance Characteristics

Parameter	Requirement $\Delta R \pm (\% + 0.05\Omega)$		Test Method
	Limit	Typical	
Resistance	Within specified tolerance	—	$25^{\circ}C$
T.C.R.	Within specified T.C.R.	—	$+25^{\circ}C/+75^{\circ}C$
Overload (Short time)	$\pm 1.0\%$	$\pm 0.23\%$	Rated voltage x 2.5 or maximum overload volume for 5 seconds, whichever is lower
Resistance to Solder Heat	$\pm 1.0\%$	$\pm 0.1\%$	$260^{\circ}C \pm 5^{\circ}C$ , 10 seconds $\pm 1$ second
Rapid Change of Temperature	$\pm 1.0\%$	$\pm 0.1\%$	$-40^{\circ}C$ (30 minutes)/ $+125^{\circ}C$ (30 minutes), 5 cycles
Moisture Resistance	$\pm 3.0\%$	$\pm 0.54\%$	$40^{\circ}C \pm 2^{\circ}C$ , 90 - 95% RH, 1000 hours, 1.5 hr ON, 0.5 hr OFF cycle
Endurance at $70^{\circ}C$	$\pm 3.0\%$	$\pm 0.62\%$	$70^{\circ}C \pm 2^{\circ}C$ , 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  $70^{\circ}C$ . 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	$\pm 0.05\%$	$-40^{\circ}C$ , 45 minutes
High Temperature Exposure	$\pm 0.6\%$	$125^{\circ}C$ , 1000 hours
ESD	500V	Human Body Model, 100 pF 1.5 k $\Omega$

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