

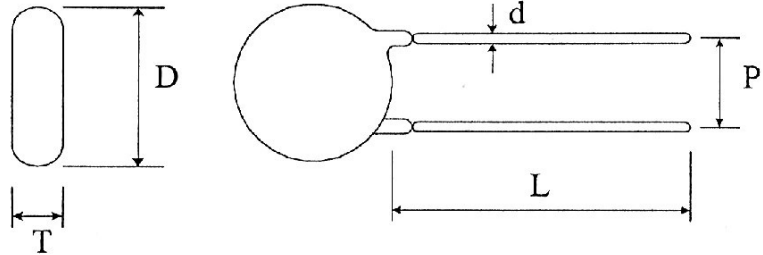
# NTC Disc Thermistors

## Description

A range of miniature disc thermistors for general purpose applications such as temperature compensation circuitry. The thermistors are clearly coded and have a wide working temperature range of  $-30$  to  $+125^{\circ}\text{C}$  and a electrical tolerance of 10%.

## Dimensions

Item	Dimension (mm)
Disc	5
D (max)	6.5
L (min)	31
d	$0.5 \pm 1$
p	$3.5 \pm 1$
T (max)	5



## General Information

Body Material	:	Epoxy Resin Coated
Lead Material	:	Tinned Copper Wires
Coating Colour	:	Green
Marking Colour	:	Black

## Electrical Characteristics

Parameter	Symbol	Test Conditions	Unit					
				TTC301A	TTC102A	TTC502A	TTC203A	TTC104A
Typical Resistance @ $25^{\circ}\text{C}$	$R_{25}$	$T_a=25^{\circ}\text{C} \pm 0.1^{\circ}\text{C}$ $I < 0.5\text{mA}$	$\Omega$	300	1K	5K	20K	100K
Resistance @ $50^{\circ}\text{C}$	$R_{50}$	$T_a=50^{\circ}\text{C} \pm 0.1^{\circ}\text{C}$ $I < 0.5\text{mA}$	$\Omega$	121	0.373K	1.794K	6.64K	31.936K
$R_{25}/R_{50}$	K	-	-	2.479	2.679	2.786	3.011	3.131
B Constant	B	(8876 Log K)	K	3500	3800	3950	4250	4400
Thermal Dissipation Constant	C	$T_a=25^{\circ}\text{C} \pm 0.1^{\circ}\text{C}$	$\text{mW}/^{\circ}\text{C}$	9	9	9	9	8
Thermal Time Constant	-	$T_a=25^{\circ}\text{C} \pm 0.1^{\circ}\text{C}$	Sec	22	22	21	23	24
Insulation Test	-	1000VDC / 1 min	$\Omega$	500M	500M	500M	500M	500M

## Absolute Maximum Ratings

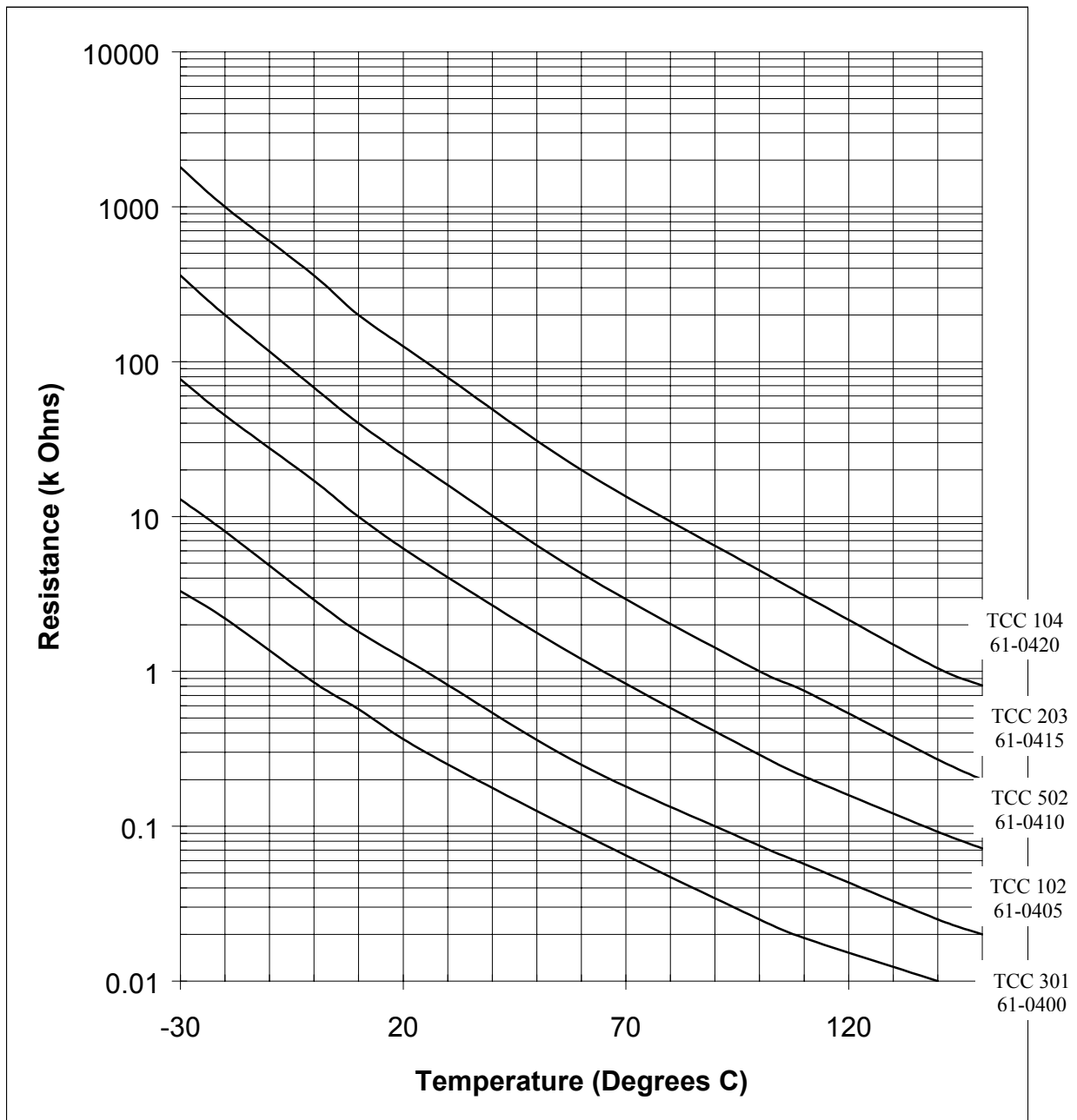
Operation Temperature Range	$^{\circ}\text{C}$	-30 to +125
Max Permissible Current	mA	115    70    30    20    10
Max Operating Current	mA	10    7    3    2    1

## Mechanical Characteristics

Leads Terminal Tensile Strength		
Conditions	Test Result	
Fasten body with a load applied to each lead 1 kg for 5 sec's	No break out or damage	OK

Leads Terminal Bend Strength		
Conditions	Test Result	
Fix body and hang 0.3kg on one terminal bend to $90^{\circ}$ and then back, repeat in opposite direction	No break out or damage	OK

## Resistance Temperature Characteristic



Item	Test Conditions	Variable
Temp. Cycle Test	-30°C x30 → +25°C x5 -125°C x30 → +25°C x5 } x10	Within ± 10%
Humidity Test	45°C 95% RHx1000 Hrs	Within ± 10%
Life Test	10mA x 1000 Hrs	Within ± 10%
Insulation Test	DC 1000V	≥ 500MΩ

### Approval Information

CSA : File No. LR97495  
 UL : File No. E138827\*

\*- only applicable to TCC102 and TCC502