



## NTC-Thickfilm Temperature Sensors

Type: TNS

Sizes: 0402, 0603, 0805, 1206

### Features:

- NTC-Chip Resistors in Thickfilm
- Contact areas tinned or PtAg
- Small sizes with short response time
- Versions for active trimming available

### Sizes/Dimensions:

Size	L	B	H	C
0402	1.04 $\pm 0.05$	0.5 $\pm 0.05$	0.3 $\pm 0.05$	0.1 $+0.17/-0.05$
0603	1.5 $+0.15/-0.05$	0.8 $+0.15/-0.05$	0.4 $+0.15/-0.05$	0.2 $+0.2/-0.1$
0805	2.0 $+0.15/-0.05$	1.2 $+0.2/-0.05$	0.4 $+0.15/-0.1$	0.3 $+0.2/-0.1$
1206	3.2 $+0.15/-0.05$	1.5 $+0.2/-0.05$	0.6 $+0.2/-0.05$	0.3 $+0.2/-0.1$

L = length, B = width, D = thickness, C = width wrap-around (in mm)

### Packaging:

Bulk or tape/reel acc. To DIN IEC 286-3/E/A481-1-A

Tape width 8 mm, reel diameter 180 mm/330 mm)

Minimum quantity bulk 100 pieces per value

Minimum quantity reel 1000 pieces per vaule

### Ordering Data:

Type – value – tolerance –TCR – Packaging

Example: TNS 0805 1K  $\pm 5\%$  TCR -4800 taped



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### Technical data – depending on size:

Size	0402	0603	0805	1206
Power rating (P <sub>70</sub> /mW)	25	50	65	125
Working voltage				
trimmed	30	75	100	200
untrimmed	90	220	300	600

Range/TCR/Tolerance (25°C)	0402	0603	0805	1206
1K – 4K7	-4800/-6600 10/20%	4800/-6600 10/20%	4800/-6600 5/10/20%	4800/-6600 5/10/20%
5K6 – 47K	-6600/-7500 10/20%	-6600/-7500 5/10/20%	-6600/-7500 5/10/20%	-6600/-7500 5/10/20%
56K – 500K	-7500/-9000 10/20%	-7500/-9000 5/10/20%	-7500/-9000 5/10/20%	-7500/-9000 5/10/20%

Standard-TCR/Tolerance: ±500 ppm/K

Available combinations of value and TCR restricted

Closer tolerance of value and TCR on request

### General technical data:

Temperature range	-55°C ... +155°C
Climatic category to DIN IEC 68	55/155/56
Solderability <sup>1)</sup>	235°C 2s
Maximum soldering temperature <sup>2)</sup>	260°C 10s

Long term stability	
Storage 125°C/1000h	<1%
Storage 155°C/1000h	<2%
Load P <sub>70</sub> /70°C/1000h	<2%
Damp heat (56d/40°C/96%)	<1%

<sup>1)</sup> DIN IEC 68 T2-20, Ta Meth.1

<sup>2)</sup> DIN IEC 68 T2-20, Tb Meth. 1A



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