

TRS-Series

PTC Thin Film Temperature Sensors (RTD - Resistance Temperature Detector)

Sizes: 0805, 1206 (TRS-C), Chip (TRS-S)

Features:

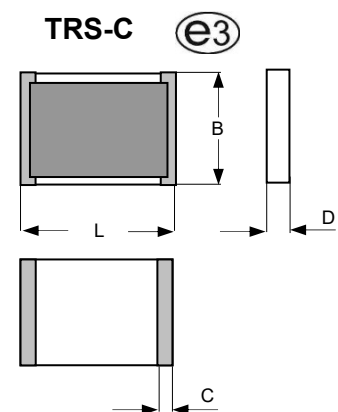
- PTC-Resistors in thin film technology
- Standard-SMD (TRS-C) or bare dies for wire bonding (TRS-S)
- Passivated resistor element
- Tolerances down to 0.5 %
- Temperature coefficients (TCR) +3300 and +3850 ppm/K
- Customized design is possible
- Several substrate materials available (Silicon, Alumina, Quarz – TRS-S only)
- Versions with extended temperature range available on request (up to 150°C)



Dimensions:

Type	Size	L	B	D	C
TRS-C	0805	2.0 ± 0.1	1.25 ± 0.1	0.55 ± 0.1	0.4 ± 0.2
TRS-C	1206	3.2 ± 0.2	1.6 ± 0.15	0.55 ± 0.1	0.5 ± 0.2
TRS-S	0.5 x 0.5 mm ²	0.5 ± 0.05	0.5 ± 0.05	0.26 ± 0.05	-
TRS-S	0.76 x 0.76 mm ²	0.76 ± 0.05	0.76 ± 0.05	0.26 ± 0.05	-
TRS-S	2.0 x 1.0 mm ²	2.0 ± 0.05	1.0 ± 0.05	0.26 ± 0.05	-

L = Length. B = Width. D = Thickness. C = Width of wrap around (in mm)



Packaging:

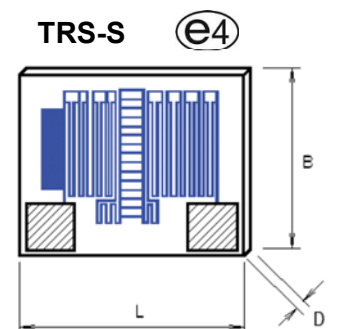
TRS-C

Bulk in plastic bags – minimum quantity 100 pieces per value
 Embossed carrier tape acc. to IEC 60286-3 –
 MOQ 500 pieces per value

Reel diameter 180 mm or 330 mm

TRS-S

Waffle Pack
 Wafer, inked or diced on foil



Ordering Data:

Type – size - value – tolerance – temperature coefficient TCR – TCR tolerance – packaging

Example: TRS-C 1206 1k $\pm 1\%$ TCR +3850 ± 200 Gurt 180 mm

TRS-S 0.5mmx0.5mm 1k $\pm 1\%$ TCR +3300 ± 500 waffle pack

If no requirements for TCR and taping are given, the standard value (highest value in table) will be supplied and packaging is bulk (TRS-C).

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Sizes: 0805, 1206 (TRS-C), Chip (TRS-S)

Technical data – depending on size:

Size	TRS-C 0805	TRS-C 1206	TRS-S
Power rating (mW)	62.5	125	25 per mm ²
Max. working voltage U_{-} , U_{eff} (V)	100	250	100

Resistance				
100R	Tolerances at 25 °C	±0.5; ±1; ±5%	±0.5; ±1; ±5%	±0.5; ±1; ±5%
1k	Temperature coefficient TCR (ppm/K):	+3300; +3850	+3300; +3850	+3300; +3850
5k	TCR-tolerances (ppm/K):	±500. ±200;	±500. ±200;	±500. ±200;
10k				
50k	Tolerances at 25 °C	–	±0.5; ±1; ±5%	±0.5; ±1; ±5%
	Temperature coefficient TCR (ppm/K):		+3300; +3850	+3300; +3850
	TCR-tolerances (ppm/K):		±200; ±500	±500. ±200;

Other values for resistance, tolerance and temperature coefficient on request and agreement only

Technical data – general:

Operating temperature range	-55°C ... +125°C
Climatic category acc. to EN 60068-1	55/125/56
Solderability acc. to EN 60068-2-58 (TRS-C only)	245°C 3 s
Max. soldering temperature acc. to EN 60068-2-58 (TRS-C only)	260°C 10 s
Moisture Sensitivity Level acc. to J-STD-020	MSL 1 (unlimited)

Extended temperature range up to 150°C is available on request

Long term stability	TRS-C	TRS-S
Storage 125°C/1000h	< 0.35%	< 0.25%
Storage 155°C/1000h	< 0.50%	< 0.25%
Load P_{70} /70°C/1000h	< 0.50%	< 0.25%
Damp heat (56d/40°C/96%)	< 0.75%	-

Data not specified according to EN 140401-802 (CECC 40401-802).

TRS-S is to protect from environmental impacts in the application.