

microRTD, Miniaturized Temperature Sensor

Temperature range -40 °C to +140 °C

Preliminary Datasheet

- Ultrathin, small footprint temperature sensor element
- Bendable structure
- High accuracy
- Fast response time
- Wide temperature range

The ultrathin temperature sensor element widens the application space for accurate temperature sensing: A thickness of ~50 µm in combination with a small footprint down to 0.6 mm x 0.3 mm enables positioning in constraint spots and in between tiny interface layers. The flexible, bendable structure allows for conformal contact over a wide temperature range of -40 °C up to +140 °C.

Temperature Range

-40 °C to +140 °C

Temperature Coefficient

TCR = 4250 ppm/K ±50 ppm/K

Response Time

Water v = 0.3 m/s

$$t_{0.5} = 0.05 \text{ s}$$

$$t_{0.9} = 0.1 \text{ s}$$

Long-Term Stability

Storage: R_0 -Drift <0.2 %
(100 hours at 85 °C / 85 % RH)

Cycle test: R_0 -Drift <0.2 %
(1000 temperature cycles -40 °C / +130 °C for 300 sec each)

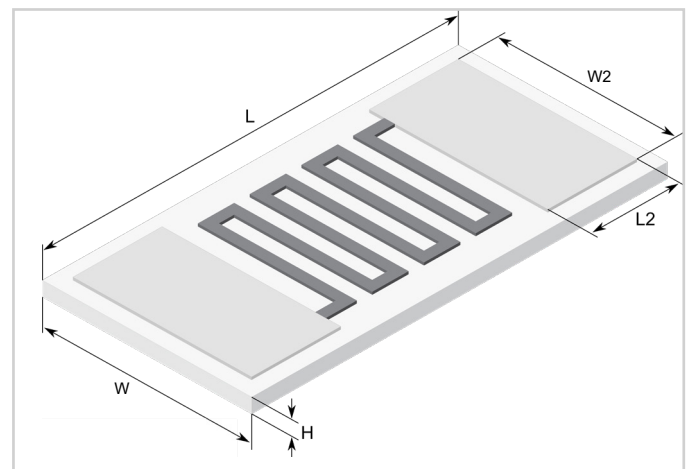


Image for illustration purpose only

Dimensions and Resistance R_0

Type	Length	Width	Length 2	Width 2	Height	Resistance R_0
0402	1.00 mm	0.50 mm	0.21 mm	0.43 mm	50 µm	1000 / 2500 Ω
0201	0.60 mm	0.30 mm	0.07 mm	0.25 mm	50 µm	1000 Ω

Application Examples

- Advanced electronics
- Advanced packaging
- Lab-on-chip
- On-skin temperature devices
- Lifestyle applications
- Wearables
- EV charging
- Battery monitoring



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