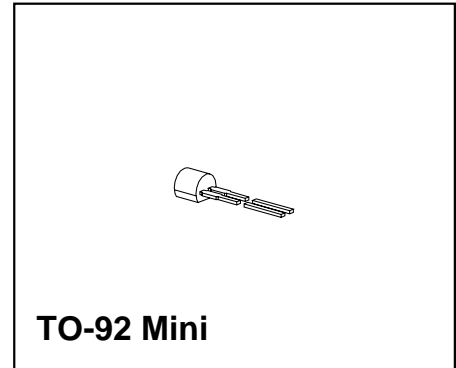


Silicon Spreading Resistance Temperature Sensor in Miniature Leaded Plastic Package

KT 110, KT 210,
KTY 11, KTY 21

Features

- Temperature dependent Resistor with Positive Temperature Coefficient
- Miniature plastic package for very small thermal time constants
- Fast response
- High reliability due to multilayer gold contacts
- n-conducting silicon crystal
- Polarity independent due to symmetrical construction
- Available selected in $\pm 1\%$ tolerance groups (KTY-series)



| Type | Marking | Ordering Code | Pin Configuration | | Package |
|----------|---------|---------------|--------------------|--------------------|------------|
| | | | 1 | 2 | |
| KT 110 | T-1 | Q62705-K332 | electrical contact | electrical contact | TO-92 Mini |
| KTY 11-5 | T-5 | Q62705-K245 | | | |
| KTY 11-6 | T-6 | Q62705-K246 | | | |
| KTY 11-7 | T-7 | Q62705-K247 | | | |
| KT 210 | N-1 | Q62705-K334 | | | |
| KTY 21-5 | N-5 | Q62705-K258 | | | |
| KTY 21-6 | N-6 | Q62705-K259 | | | |
| KTY 21-7 | N-7 | Q62705-K260 | | | |

Absolute Maximum Ratings

| Parameter | Symbol | KT 110 KTY 11 | KT 210 KTY 21 | Unit |
|--|--------------------|------------------|------------------|------------------|
| Maximum operating voltage ¹⁾ $T_A \leq 25^\circ\text{C}$, $t \leq 10\text{ ms}$ | V_{opmax} | 25 | | V |
| Maximum operating current | I_{opmax} | 5 | 7 | mA |
| Peak operating current $T_A \leq 25^\circ\text{C}$, $t \leq 10\text{ ms}$ | I_{opp} | 7 | 10 | mA |
| Operating temperature range | T_{op} | - 50 ... + 150 | | $^\circ\text{C}$ |
| Storage temperature range | T_{stg} | - 50 ... + 150 | | $^\circ\text{C}$ |

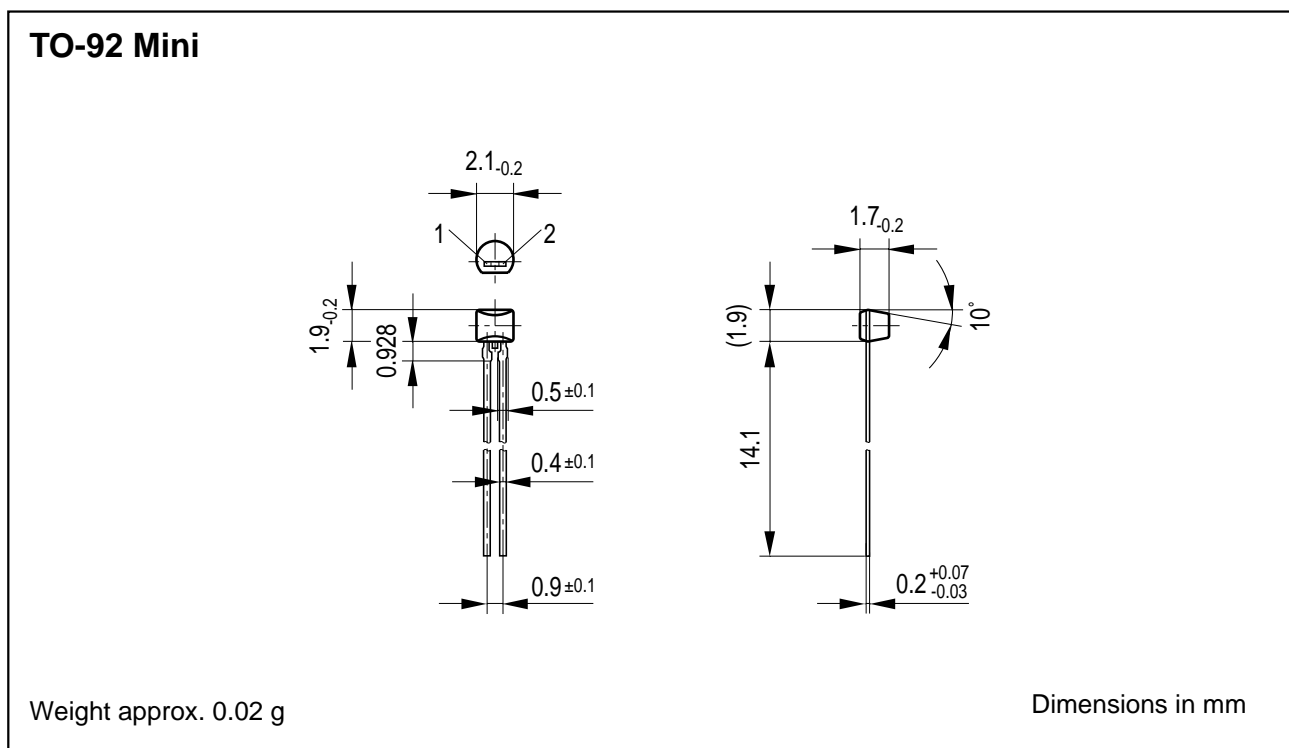
¹⁾ ESD Class 1. When the temperature sensor is operated with long supply leads, it should be protected through the parallel connection of a $> 10\text{ nF}$ capacitor to prevent damage to the sensor through induced voltage peaks.

Electrical Characteristics

at $T_A = 25\text{ }^\circ\text{C}$ unless otherwise specified

| Parameter | Symbol | Limit Values | | | Unit |
|---|---------------------|--------------|------|------|----------|
| | | min. | typ. | max. | |
| Temperature sensor resistance $I_B = 1\text{ mA}$ | R_{25} | | | | Ω |
| KT 110 | | 1940 | — | 2060 | |
| KTY 11-5 | | 1950 | — | 1990 | |
| KTY 11-6 | | 1980 | — | 2020 | |
| KTY 11-7 | | 2010 | — | 2050 | |
| KT 210 | | 970 | — | 1030 | |
| KTY 21-5 | | 975 | — | 995 | |
| KTY 21-6 | | 990 | — | 1010 | |
| KTY 21-7 | 1005 | — | 1025 | | |
| Thermal time constant (63% of ΔT_A) | | | | | s |
| in still air | τ_{air} | — | 11 | — | |
| in still oil (Freon FC40/PP7) | τ_{oil} | — | 1.5 | — | |

Package Outline



Exterior Packaging

I.e. tubes, trays, boxes are shown in our Data Book "Package Information".