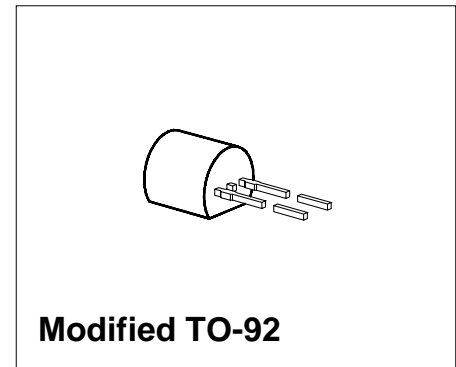


## Silicon Spreading Resistance Temperature Sensor in Leaded Plastic Package

**KT 100**  
**KTY 10**

### Features

- Temperature dependent Resistor with Positive Temperature Coefficient
- Small plastic package
- 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



### Electrical Characteristics

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

| Parameter   | Symbol                                     | Limit Values                         |                       |                                      | Unit     |
|---|--|--------------------------------------|-----------------------|--------------------------------------|----------|
|   |  | min.                                 | typ.                  | max.                                 |          |
| Temperature sensor resistance $I_B = 1\text{ mA}$<br>KT 100<br>KTY 10-5<br>KTY 10-6<br>KTY 10-62<br>KT 10-7 | $R_{25}$                                   | 1940<br>1950<br>1980<br>1990<br>2010 | —<br>—<br>—<br>—<br>— | 2060<br>1990<br>2020<br>2010<br>2050 | $\Omega$ |
| Thermal time constant (63% of $\Delta T_A$ )<br>in still air<br>in still oil (Freon FC40/PP7)               | $\tau_{\text{air}}$<br>$\tau_{\text{oil}}$ | —<br>—                               | 40<br>4               | —<br>—                               | s        |

| Type      | Marking   | Ordering Code | Pin Configuration  |                    | Package        |
|-----------|-----------|---------------|--------------------|--------------------|----------------|
|           |           |               | 1                  | 2                  |                |
| KT 100    | KT 100    | Q62705-K331   | electrical contact | electrical contact | Modified TO-92 |
| KTY 10-5  | KTY 10-5  | Q62705-K110   |                    |                    |                |
| KTY 10-6  | KTY 10-6  | Q62705-K132   |                    |                    |                |
| KTY 10-62 | KTY 10-62 | Q62705-K71    |                    |                    |                |
| KTY 10-7  | KTY 10-7  | Q62705-K111   |                    |                    |                |

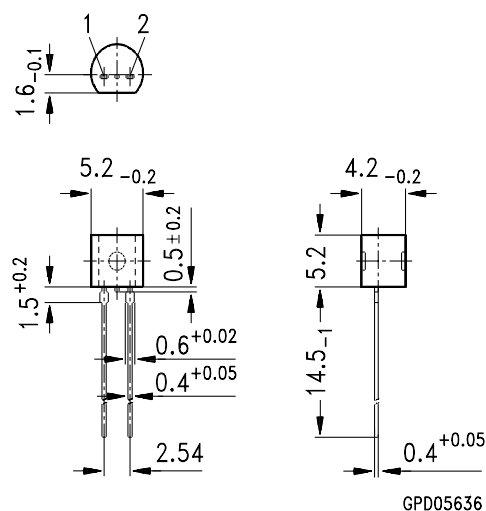
## Absolute Maximum Ratings

| Parameter   | Symbol      | Limit Values   | Unit |
|---|-------------|----------------|------|
| Maximum operating voltage <sup>1)</sup><br>$T_A \leq 25\text{ °C}, t \leq 10\text{ ms}$ | $V_{opmax}$ | 25             | V    |
| Maximum operating current   | $I_{opmax}$ | 7              | mA   |
| Peak operating current<br>$T_A \leq 25\text{ °C}, t \leq 10\text{ ms}$                  | $I_{opp}$   | 10             | mA   |
| Operating temperature range   | $T_{op}$    | - 50 ... + 150 | °C   |
| Storage temperature range   | $T_{stg}$   | - 50 ... + 150 | °C   |

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

## Package Outline

### Modified TO-92



Weight approx. 0.25 g

Dimensions in mm

## Exterior Packaging

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