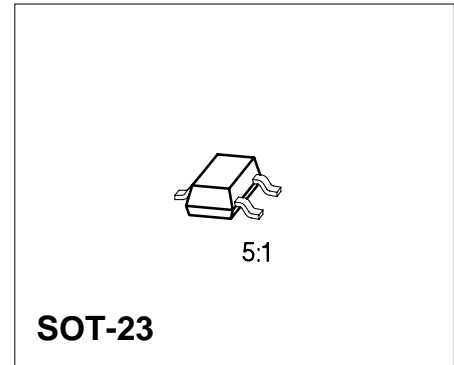


## Silicon Spreading Resistance Temperature Sensor in Surface Mount Technology

KT 130, KT 230,  
KTY 13, KTY 23

### Features

- Temperature dependent Resistor with Positive Temperature Coefficient
- SMD 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



Type	Marking	Ordering Code	Pin Configuration		Package
			1	2	
KT 130	T-1	Q62705-K333	electrical contact	electrical contact	SOT-23
KTY 13-5	T-5	Q62705-K249			
KTY 13-6	T-6	Q62705-K250			
KTY 13-7	T-7	Q62705-K251			
KT 230	N-1	Q62705-K335			
KTY 23-5	N-5	Q62705-K262			
KTY 23-6	N-6	Q62705-K263			
KTY 23-7	N-7	Q62705-K264			

### Maximum Ratings

Parameter	Symbol	KT 130 KTY 13	KT 230 KTY 23	Unit
Maximum operating voltage <sup>1)</sup> $T_A \leq 25\text{ °C}, t \leq 10\text{ ms}$	$V_{\text{opmax}}$	25		V
Maximum operating current	$I_{\text{opmax}}$	5	7	mA
Peak operating current $T_A \leq 25\text{ °C}, t \leq 10\text{ ms}$	$I_{\text{opp}}$	7	10	mA
Operating temperature range	$T_{\text{op}}$	- 50 ... + 150		°C
Storage temperature range	$T_{\text{stg}}$	- 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  $> 10\text{ nF}$  capacitor to prevent damage to the sensor through induced voltage peaks.

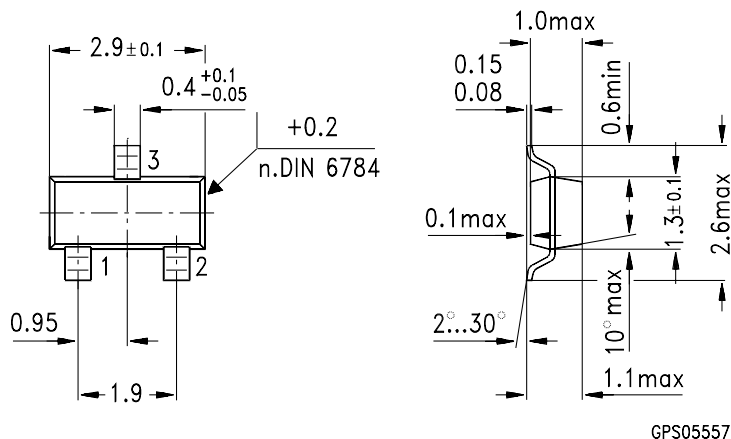
## Electrical Characteristics

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

Parameter	Symbol	Limit Values			Unit
		min.	typ.	max.	
Temperature sensor resistance $I_B = 1\text{ mA}$	$R_{25}$				$\Omega$
KT 130		1940	—	2060	
KTY 13-5		1950	—	1990	
KTY 13-6		1980	—	2020	
KTY 13-7		2010	—	2050	
KT 230		970	—	1030	
KTY 23-5		975	—	995	
KTY 23-6		990	—	1010	
KTY 23-7	1005	—	1025		
Thermal time constant (63% of $\Delta T_A$ )					s
in still air	$\tau_{\text{air}}$	—	7	—	
in still oil (Freon FC40/PP7)	$\tau_{\text{oil}}$	—	1	—	

## Package Outline

### SOT-23 (SMD)



Weight approx. 0.01 g

Dimensions in mm

## Exterior Packaging

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

SMD = Surface Mounted Device