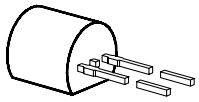
SIEMENS

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 ± 1% tolerance groups



Modified TO-92

Electrical Characteristics

at T_A = 25 ˚C unless otherwise specified

Parameter	Symbol	Limit Values			Unit
		min.	typ.	max.	
Temperature sensor resistance IB = 1 mA	R_{25}				Ω
KT 100		1940	–	2060	
KTY 10-5		1950	–	1990	
KTY 10-6		1980	–	2020	
KTY 10-62		1990	–	2010	
KT 10-7		2010	–	2050	
Thermal time constant (63% of ΔT_A)					s
in still air	τ_{air}	–	40	–	
in still oil (Freon FC40/PP7)	τ_{oil}	–	4	–	

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			

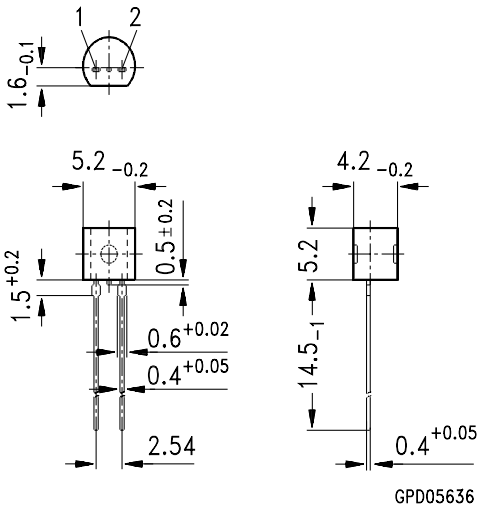
Absolute Maximum Ratings

Parameter	Symbol	Limit Values	Unit
Maximum operating voltage [1)] $T_A \leq 25$ °C, $t \leq 10$ ms	V_{opmax}	25	V
Maximum operating current	I_{opmax}	7	mA
Peak operating current $T_A \leq 25$ °C, $t \leq 10$ ms	I_{opp}	10	mA
Operating temperature range	T_{op}	– 50 … + 150	°C
Storage temperature range	T_{stg}	– 50 … + 150	°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 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”.