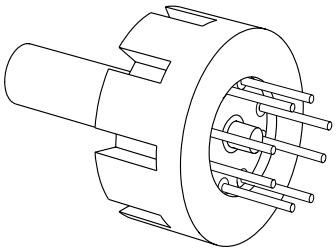
Silicon Piezoresistive Relative Pressure Sensor

KPY 33-RK

Features

- Low pressure and temperature hysteresis
- Fast response
- High sensitivity and linearity
- Fatigue free monocrystaline silicon diaphragm giving high load cycle stability
- High long term stability
- Provided for further fabrication, protection cap



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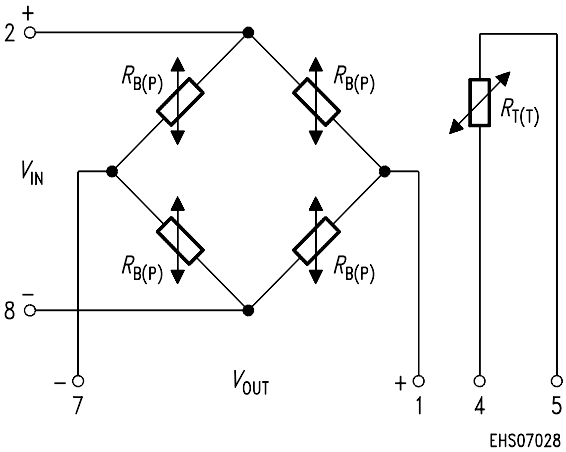
Type	Symbol	Pressure Range	Unit	Ordering Code
KPY 33-RK	$P_0 \ldots P_N$	0 … 0.1	bar	Q62705-K274

Pin Configuration

1	+ V_{OUT}
2	+ V_{IN}
3	Not connected
4	Temperature sensor (typ. R_{25} = 2 kΩ)
5	Temperature sensor
6	Shielding, to be connected to + V_{IN}
7	– V_{OUT}
8	– V_{IN}



Absolute Maximum Ratings

Parameter	Symbol	Limit Values	Unit
Pressure overload	P_{MAX}	1.0	bar
Operating temperature range	T_A	– 40 … + 125	°C
Storage temperature range	T_{stg}	– 50 … + 150	°C
Supply voltage	V_{IN}	12	V

Electrical Characteristics

at T_A = 25 °C and V_{IN} = 5 V, unless otherwise specified

Parameter	Symbol	Limit Values			Unit
		min.	typ.	max.	
Bridge resistance	R_B	4	–	8	kΩ
Sensitivity	s	56.0	80.0	–	mV/Vbar
Output voltage	V_{fin}	28.0	40.0	–	mV
Offset voltage $P = P_0$	V_0	– 25	–	+ 25	mV
Linearity error (Best fit straight line) $P = P_0 ... P_N$	F_L	–	± 0.2	± 0.5	% V_{fin}
Pressure hysteresis $P_1 = P_0$, $P_2 = P_N$, $P_3 = P_0$	P_H	–	± 0.1	–	% V_{fin}

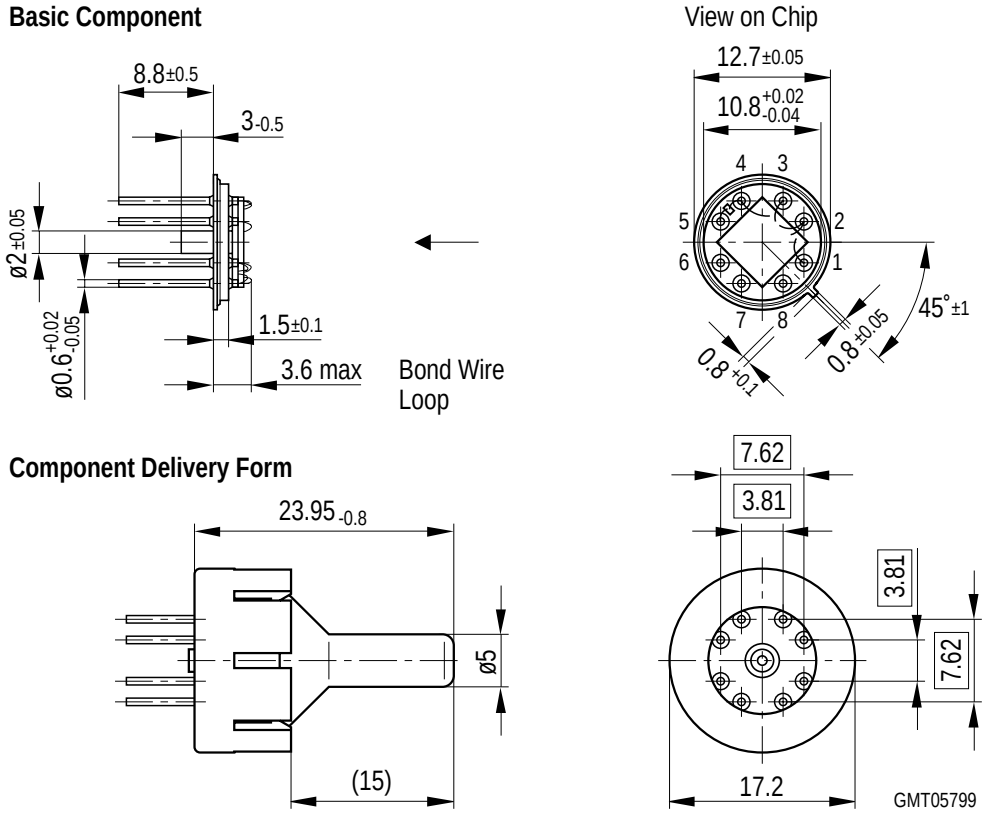
Electrical Characteristics

at T_1 = 25 °C, T_s = 125 °C, T_3 = 25 °C and V_{fin} = 5 V, unless otherwise specified

Parameter	Symbol	Limit Values			Unit
		min.	typ.	max.	
Temperature coefficient of V_{fin}	TC_{Vfin}	– 0.19	–	– 0.10	%/K
Temperature coefficient of V_0	TC_{V0}	– 0.05	–	+ 0.05	%/K
Temperature coefficient of R_B	TC_{RB}	–	+ 0.095	–	%/K
Temperature hysteresis of V_0; V_{fin}	TH	– 0.7	± 0.1	+ 0.7	% v. V_{fin}

Package Outline

TO-8-2



Weight approx. 3.3 g

Sorts of Packing

Package outlines for tubes, trays etc. are contained in our Data Book “Package Information”.

Dimensions in mm