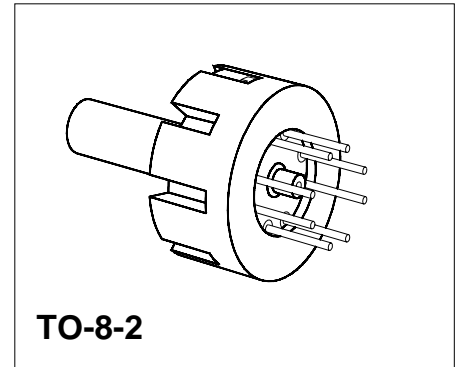# SIEMENS

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

TO-8-2

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

Pin Configuration

1	$+ V_{OUT}$
2	$+ V_{IN}$
3	Not connected
4	Temperature sensor (typ. $R_{25} = 2 \text{ k}\Omega$)
5	Temperature sensor
6	Shielding, to be connected to $+ V_{IN}$
7	$- V_{OUT}$
8	$- V_{IN}$

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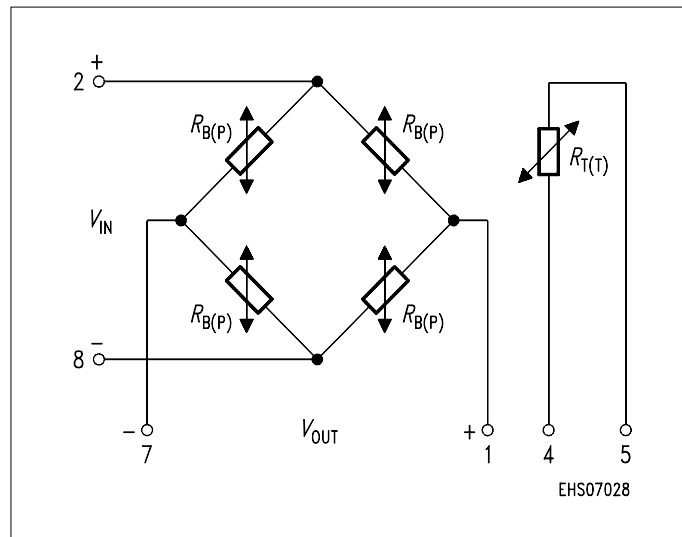
Absolute Maximum Ratings

Parameter	Symbol	Limit Values	Unit
Pressure overload	P_{MAX}	1.0	bar
Operating temperature range	T_A	$-40 \ldots +125$	°C
Storage temperature range	T_{stg}	$-50 \ldots +150$	°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) $P = P_0 \ldots P_N$	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}

SIEMENS

KPY 33-RK

Package Outline

TO-8-2
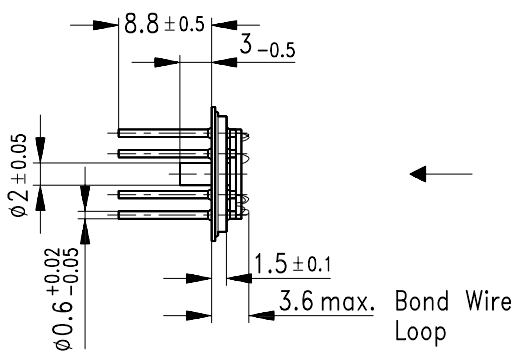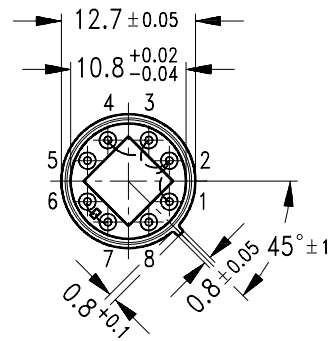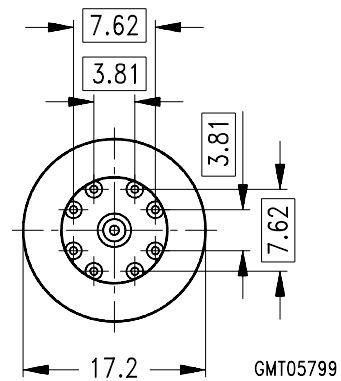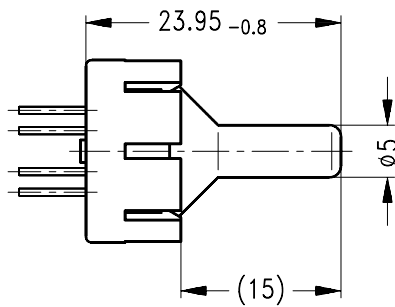
Weight approx. 3.3 g — Dimensions in mm

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

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