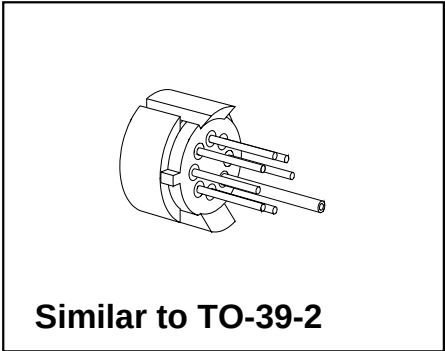


Silicon Piezoresistive Absolute Pressure Sensor Preliminary Data

KPY 62-AK
KPY 69-AK

Features

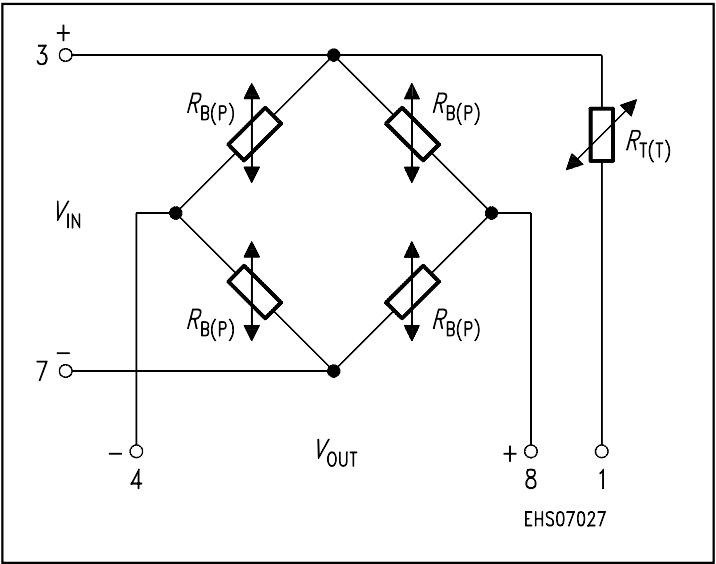
- Low pressure and temperature hysteresis
- Fast response
- High sensitivity and linearity
- Fatigue free monocrystalline silicon diaphragm giving high load cycle stability
- High long term stability
- Built in silicon temperature sensor
- Provided for further fabrication, protection cap



Type and Marking	Symbol	Pressure Range	Unit	Ordering Code
KPY 62 AK	$P_0 \dots P_N$	0 ... 0.6	bar	Q62705-K275
KPY 63 AK		0 ... 1.6		Q62705-K276
KPY 64 AK		0 ... 4		Q62705-K277
KPY 65 AK		0 ... 10		Q62705-K278
KPY 66 AK		0 ... 25		Q62705-K279
KPY 67 AK		0 ... 60		Q62705-K280
KPY 68 AK		0 ... 160		Q62705-K281
KPY 69 AK		0 ... 400		Q62705-K282

Pin Configuration

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



Absolute Maximum Ratings

Parameter	Symbol	Limit Values	Unit
Pressure overload	P_{MAX}	4 8 12 20 50 70 200 500	bar
Operating temperature range	T_{A}	– 40 ... + 125	°C
Storage temperature range	T_{stg}	– 50 ... + 125	°C
Supply voltage	V_{IN}	12	V

Electrical Characteristics

at $T_{\text{A}} = 25\text{ °C}$ and $V_{\text{IN}} = 5\text{ V}$, unless otherwise specified.

Parameter	Symbol	Limit Values			Unit
		min.	typ.	max.	
Bridge resistance	R_{B}	4	–	8	kΩ
Sensitivity	s	23.3 11.3 6.5 3.6 1.1 0.63 0.38 0.16	43.0 20.0 11.0 5.2 2.1 1.0 0.53 0.22	73.3 30.0 15.5 8.0 3.0 1.4 0.66 0.27	mV/ Vbar
Output voltage	V_{fin}	70 90 130 180 150 190 310 330	130 160 220 260 260 300 420 440	220 240 310 400 370 410 530 550	mV

Electrical Characteristics (cont'd)

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

Parameter	Symbol	Limit Values			Unit
		min.	typ.	max.	
Offset voltage $P = P_0$	V_0	- 25	-	+ 25	mV
Linearity error (Best fit straight line) $P_0 = P_0 \dots P_N$	F_L				% V_{fin}
KPY 62 ... 65 AK		-	± 0.3	± 0.5	
KPY 66 ... 69 AK		-	± 0.3	-	
Pressure hysteresis $P_1 = P_0, P_2 = P_N, P_3 = P_0$ KPY 62 ... 69 AK	P_H	-	± 0.1	-	% V_{fin}

Electrical Characteristics

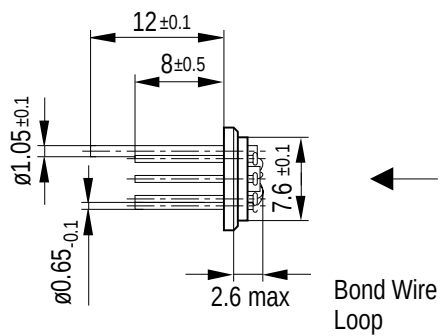
at $T_1 = 25\text{ °C}$, $T_2 = 125\text{ °C}$, $T_3 = 25\text{ °C}$ and $V_{IN} = 5\text{ V}$, unless otherwise specified.

Parameter	Symbol	Limit Values			Unit
		min.	typ.	max.	
Temperature coefficient of V_{fin} KPY 62 ... 69 AK	$TC_{V_{fin}}$	- 0.22	- 0.18	- 0.15	%/K
Temperature coefficient of V_0 KPY 62 AK KPY 63 AK KPY 64 AK KPY 65 AK KPY 66 AK KPY 67 AK KPY 68 AK KPY 69 AK	TC_{V_0}	- 0.04 - 0.04 - 0.02 - 0.02 - 0.02 - 0.01 - 0.01 - 0.01	- - - - - - - -	+ 0.04 + 0.04 + 0.02 + 0.02 + 0.02 + 0.01 + 0.01 + 0.01	%/K
Temperature coefficient of R_B KPY 62 ... 69 AK	TC_{R_B}	-	+ 0.23	-	%/K
Temperature hysteresis of V_0 ; V_{fin} KPY 62 ... 66 AK KPY 67 ... 69 AK	TH	- -	± 0.2 - 0.1	- -	% v. V_{fin}

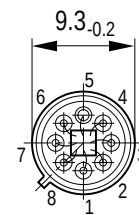
Package Outline

Similar to TO-39-2

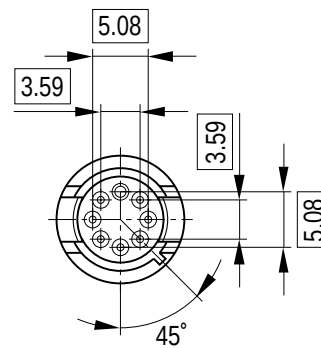
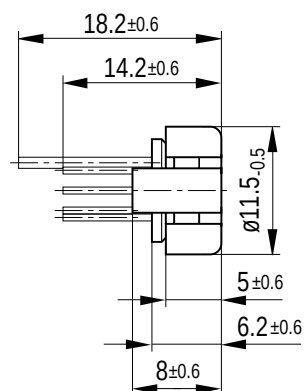
Basic Component



View on Chip



Component Delivery Form



GMT05959

Weight approx. 1.5 g

Dimensions in mm

Exterior Packaging

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