

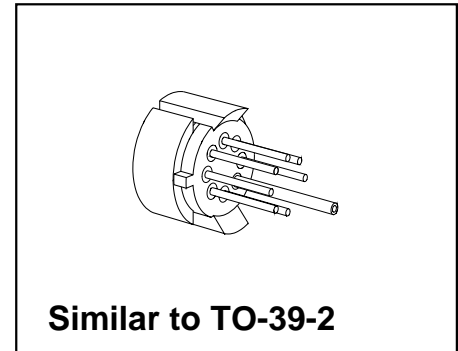
## Silicon Piezoresistive Absolute Pressure Sensor

KPY 62-AK  
KPY 69-AK

### Preliminary Data

#### Features

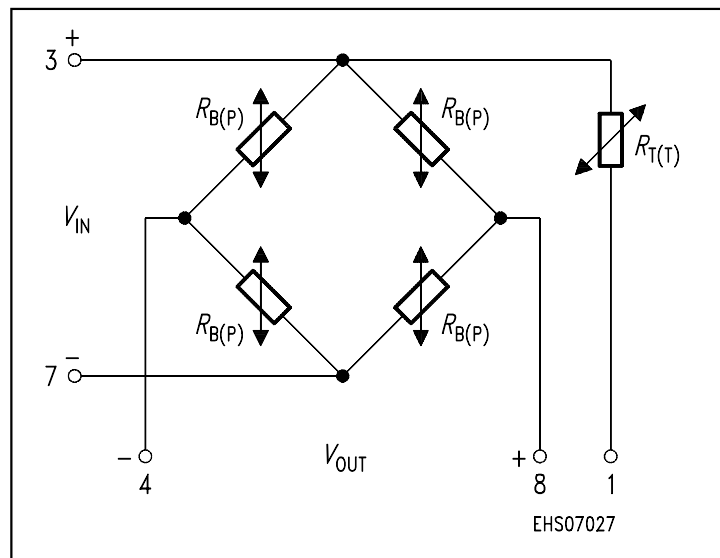
- Low pressure and temperature hysteresis
- Fast response
- High sensitivity and linearity
- Fatigue free monocrystalline silicon diaphragm giving high load cycle stability
- High long term stability
- Built in silicon temperature sensor
- Provided for further fabrication, protection cap



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	bar
KPY 62 AK		8	
KPY 63 AK		12	
KPY 64 AK		20	
KPY 65 AK		50	
KPY 66 AK		70	
KPY 67 AK		200	
KPY 68 AK		500	
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  $T_A = 25\text{ °C}$  and  $V_{IN} = 5\text{ V}$ , unless otherwise specified.

Parameter	Symbol	Limit Values			Unit
		min.	typ.	max.	
Bridge resistance	$R_B$	4	-	8	kΩ
Sensitivity	$s$	23.3	43.0	73.3	mV/ Vbar
KPY 62 AK		11.3	20.0	30.0	
KPY 63 AK		6.5	11.0	15.5	
KPY 64 AK		3.6	5.2	8.0	
KPY 65 AK		1.1	2.1	3.0	
KPY 66 AK		0.63	1.0	1.4	
KPY 67 AK		0.38	0.53	0.66	
KPY 68 AK		0.16	0.22	0.27	
Output voltage	$V_{fin}$	70	130	220	mV
KPY 62 AK		90	160	240	
KPY 63 AK		130	220	310	
KPY 64 AK		180	260	400	
KPY 65 AK		150	260	370	
KPY 66 AK		190	300	410	
KPY 67 AK		310	420	530	
KPY 68 AK		330	440	550	

### 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 $P_1 = P_0, P_2 = P_N, P_3 = P_0$	$P_H$	-	± 0.1	-	% $V_{fin}$
	KPY 62 ... 69 AK				

### Electrical Characteristics

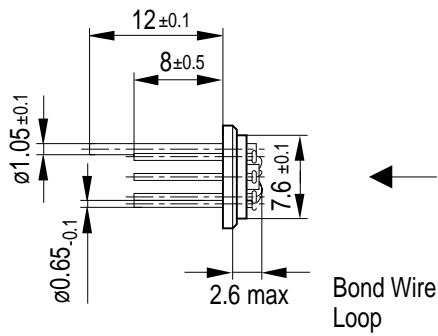
at  $T_1 = 25\text{ °C}$ ,  $T_2 = 125\text{ °C}$ ,  $T_3 = 25\text{ °C}$  and  $V_{IN} = 5\text{ V}$ , unless otherwise specified.

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. $V_{fin}$

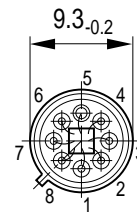
**Package Outline**

**Similar to TO-39-2**

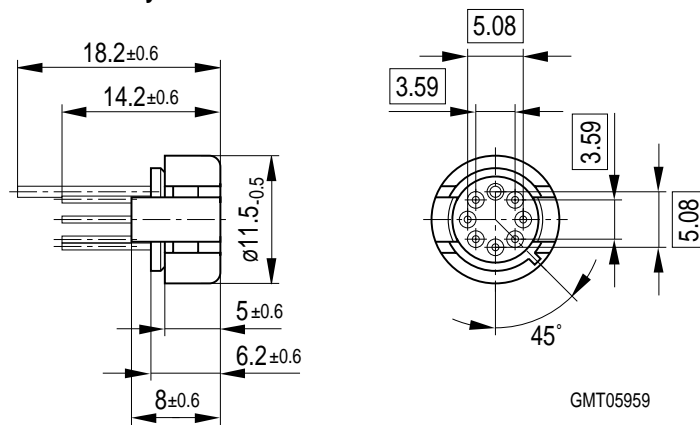
**Basic Component**



**View on Chip**



**Component Delivery Form**



Weight approx. 1.5 g

Dimensions in mm

**Exterior Packaging**

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