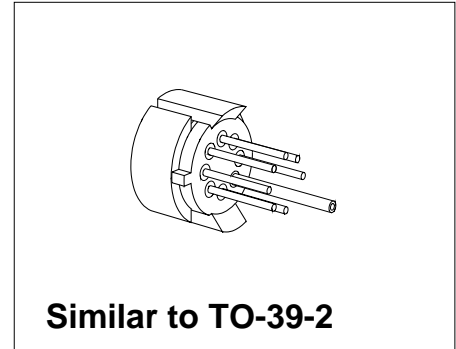


## Silicon Piezoresistive Absolute Pressure Sensor

**KPY 62-AK**  
**KPY 69-AK**

### Features

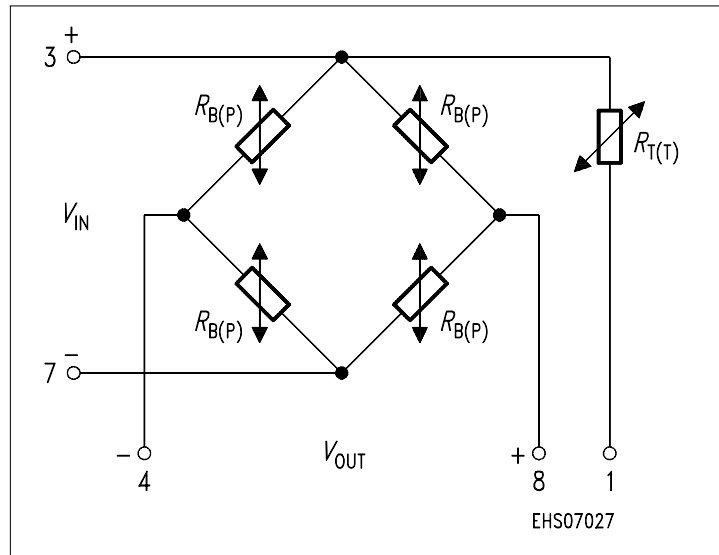
- Low pressure and temperature hysteresis
- Fast response
- High sensitivity and linearity
- Fatigue free monocrystalline silicon diaphragm giving high load cycle stability
- High long term stability
- Built in silicon temperature sensor
- Provided for further fabrication, protection cap



Type	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 to be 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	-	$\pm 0.3$	$\pm 0.5$	
	KPY 66 ... 69-AK	-	$\pm 0.3$	-	
Pressure hysteresis $P_1 = P_0, P_2 = P_N, P_3 = P_0$	$P_H$	-	$\pm 0.1$	-	% $V_{fin}$
	KPY 62 ... 69-AK				

### Electrical Characteristics

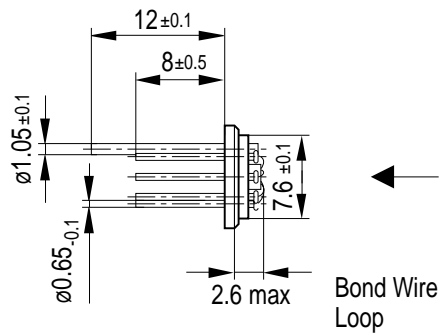
at  $T_1 = 25\text{ °C}$ ,  $T_2 = 125\text{ °C}$ ,  $T_3 = 25\text{ °C}$  and  $V_{IN} = 5\text{ V}$ , unless otherwise specified.

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	$TH$	- -	$\pm 0.2$ - 0.1	- -	% v. $V_{fin}$

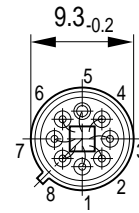
## Package Outline

### Similar to TO-39-2

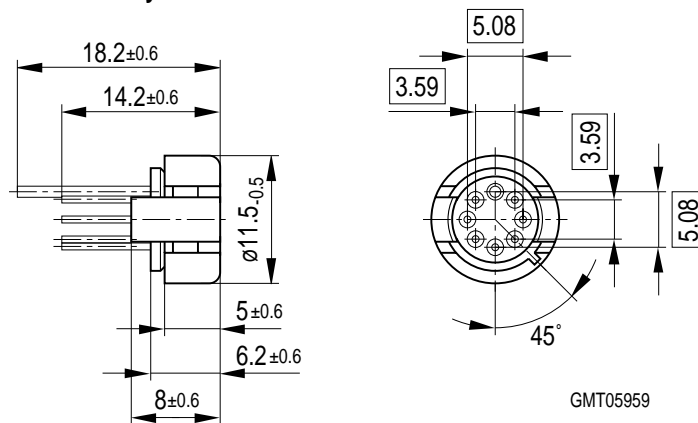
#### Basic Component



#### View on Chip



#### Component Delivery Form



Weight approx. 1.5 g

### Sorts of Packing

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

Dimensions in mm