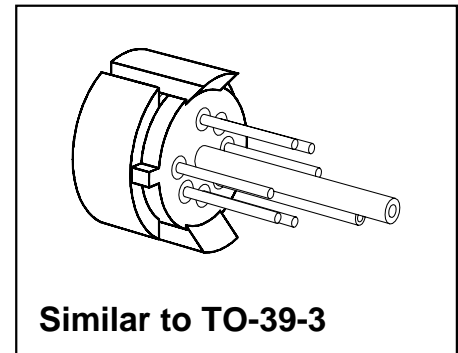


Silicon Piezoresistive Pressure Sensor

KPY 62-RK
KPY 66-RK

Features

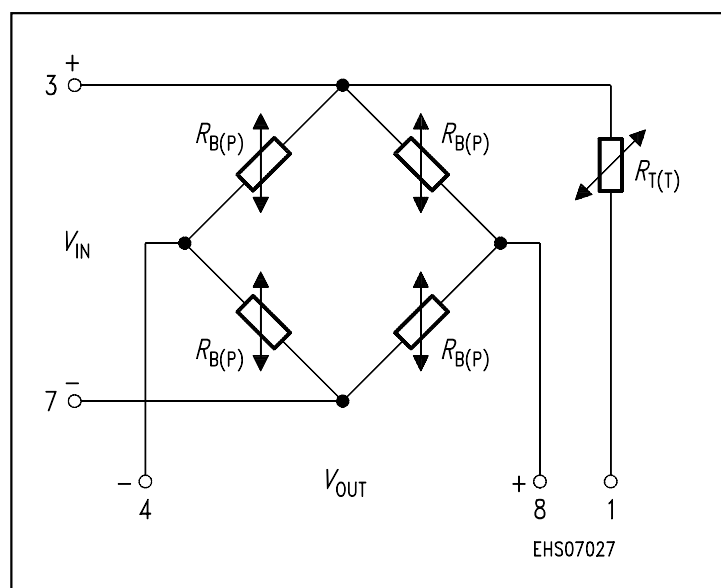
- Low pressure and temperature hysteresis
- Fast response
- High sensitivity and linearity
- Fatigue free monocrystalline silicon diaphragm giving high load cycle stability
- High long term stability
- Built in silicon temperature sensor
- Metal housing



Type and Marking	Symbol	Pressure Range	Unit	Ordering Code
KPY 62 RK	$P_0 \dots P_N$	0 ... 600	mbar	Q62705-K319
KPY 63 RK		0 ... 1.6	bar	Q62705-K320
KPY 64 RK		0 ... 4		Q62705-K321
KPY 65 RK		0 ... 10		Q62705-K322
KPY 66 RK		0 ... 25		Q62705-K292

Pin Configuration

1	Temp.- Sensor (typ. $R_{25} = 2 \text{ k}\Omega$)
2	Not connected
3	+ V_{IN} ; Temperature sensor
4	- V_{OUT}
5	No pin
6	Shielding, to be connected to + V_{IN}
7	- V_{IN}
8	+ V_{OUT}



Absolute Maximum Ratings

Parameter	Symbol	Limit Values ¹⁾		Unit
		Frontside	Rearside	
Pressure overload KPY 65 RK KPY 66 RK	P_{MAX}	20 50	10 10	bar
Operating temperature range	T_A	- 40 ... + 125		°C
Storage temperature range	T_{stg}	- 40 ... + 125		°C
Supply voltage	V_{IN}	12		V

1) Frontside coupling applies pressure onto chip face.
Rearside coupling applies pressure through Kovar centre tube.

Electrical Characteristics

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

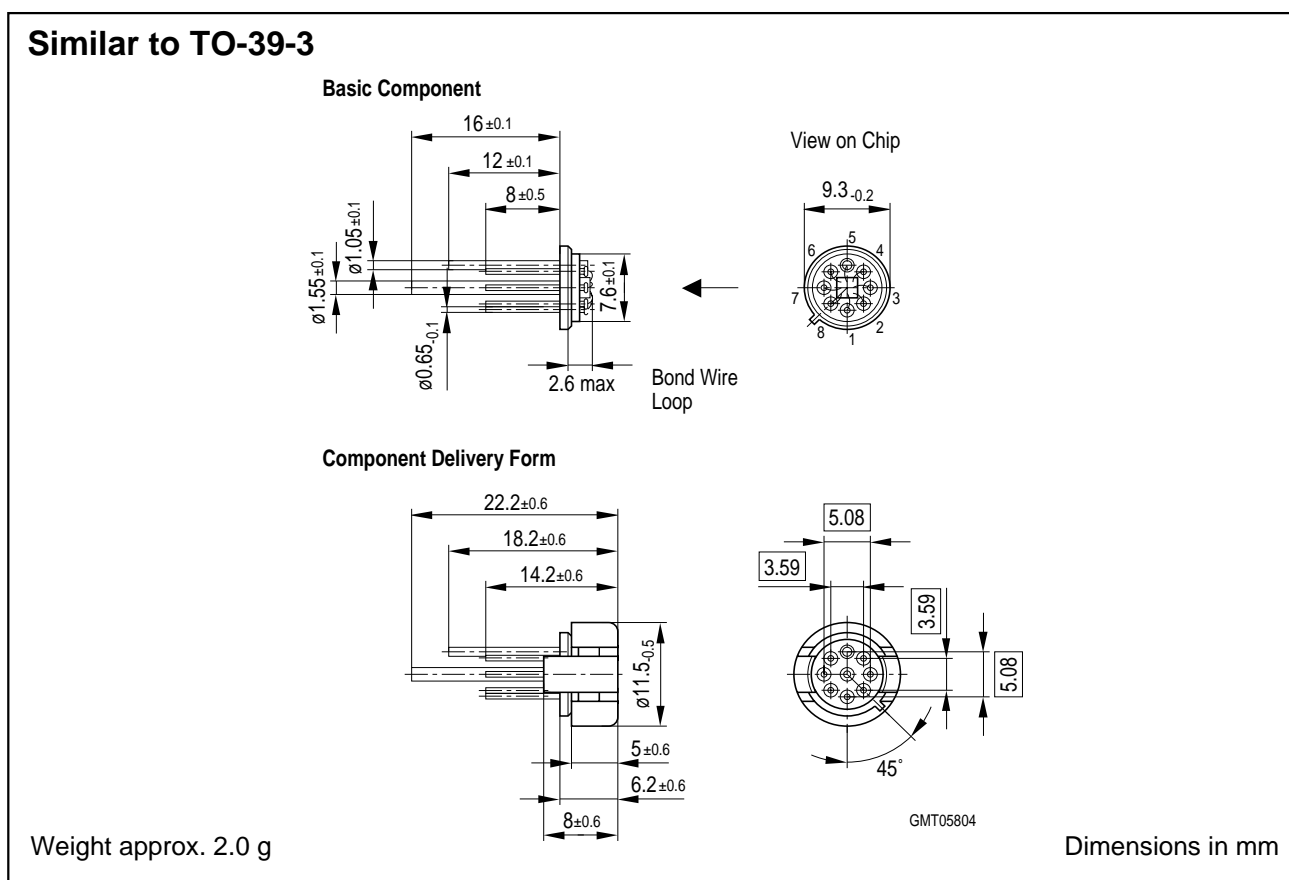
Parameter	Symbol	Limit Values			Unit
		min.	typ.	max.	
Bridge resistance	R_B	4	–	8	kΩ
Sensitivity KPY 65 RK KPY 66 RK	s	3.6 1.1	5.2 2.1	8.0 3.0	mV/ Vbar
Output voltage KPY 65 RK KPY 66 RK	V_{fin}	180 150	260 260	400 370	mV
Offset voltage $P = P_0$	V_0	- 25	–	+ 25	mV
Linearity error (Best fit straight line) $P_0 = P_0 \dots P_N$ KPY 65 ... 66 RK	F_L	–	± 0.3	± 0.5	% V_{fin}
Pressure hysteresis $P_1 = P_0, P_2 = P_N, P_3 = P_0$ KPY 65 ... 66 RK	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 65 ... 66 RK	$TC_{V_{fin}}$	- 0.22	- 0.18	- 0.15	%/K
Temperature coefficient of V_0 KPY 65 ... 66 RK	TC_{V_0}	- 0.02	-	+ 0.02	%/K
Temperature coefficient of R_B KPY 65 ... 66 RK	TC_{R_B}	-	+ 0.23	-	%/K
Temperature hysteresis of V_0 ; V_{fin} KPY 65 ... 66 RK	TH	-	± 0.2	-	% v. V_{fin}

Package Outline



Exterior Packaging

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