Specification Vakuum Sensor
HVS-Vac04

Part No. 1139

R 02

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Revision History

Version	Date	Remarks
R 00	20.12.2018	1. Draft of HEIMANN Sensor GmbH
R 01	17.02.2023	Update drawing, mechanical tolerances
R 02	18.03.2024	Include leakage spec for header

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1. Purpose, Scope

The Heimann Sensor HVS vacuum sensor series incorporates a miniature Pirani-type sensor chip based on a heated resistor structure on a thin micromachined membrane.

The sensor comes in a small, robust, TO type metal housing sealed with a lid with a small venting hole.

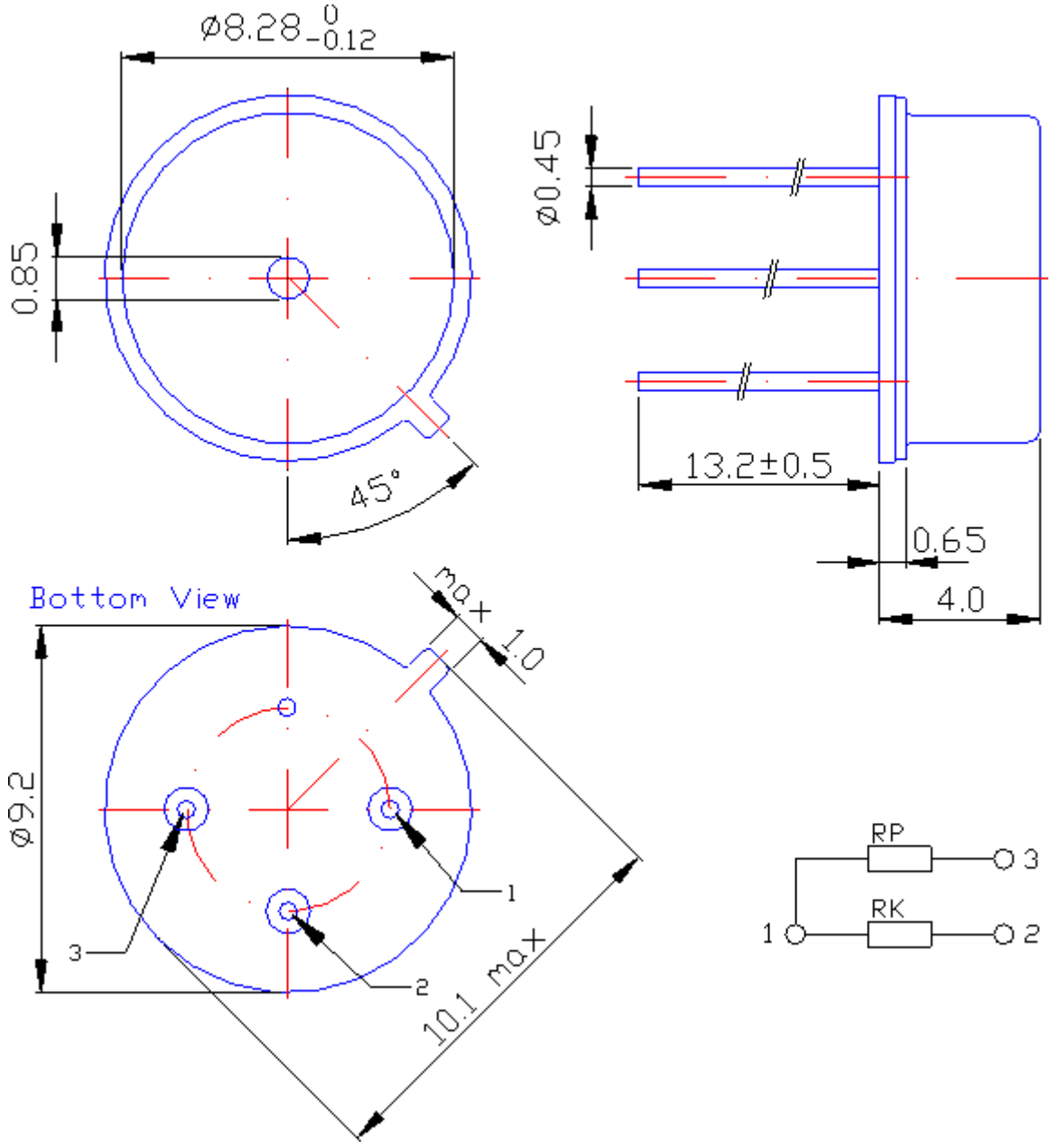
2. Absolute Maximum Ratings

Parameter	*Symbol*	*Limits*			*Units*	*Conditions*
		Min	*Typ.*	*Max*		
storage temperature		-40		120	°C	
operating temperature		-20		120	°C	

3. General and Electrical Parameter Thermopile

Parameter	*Symbol*	*Limits*			*Units*	*Conditions*
		Min	*Typ.*	*Max*		
chip size			1.0 x 1.0		mm^2	
resistance	$R_{p,k}$	0.75	0.95	1.15	kΩ	25°C
leakage TO-39 header				1 e-8	mbar*l/s	Helium test gas, 1 bar pressure difference
operating voltage			2	4 p=1..1000 mbar 2 p < 1mbar	V V	
signal voltage swing	V_S	370			mV	Heimann Sensor test set-up
signal voltage swing grade B	V_S	350		370	mV	Heimann Sensor test set-up

4. Drawing and Pin Assignment



5. General Directions for Further Processing

Stresses above the absolute maximum ratings may cause damages to the device. The sensor can be damaged by electrostatic discharges. Please take appropriate precautions for the handling.
Do not expose the sensors to detergents.

Wave soldering may be applied by a maximum temperature of 280°C for a dwell time less than 10s. For hand soldering the maximum applicable temperature is 350°C for a dwell time less than 3s. The minimum distance between the housing body and the liquid solder should be for 280°C at least 0.6mm and for 350°C at least 1.5mm. Avoid heat exposure to the top of the detector. Reflow soldering is not recommended.

6. Liability

Changes or modifications at the product which haven't influence to the performance and/or quality of the device haven't to be announced to the customers in advance. Customers are requested to consult with Heimann Sensor representatives before the use of Heimann Sensor products in special applications where failure or abnormal operation may directly affect human lives or cause physical injury or property damage. The company or their representatives will not be responsible for damage arising from such use without prior approval.