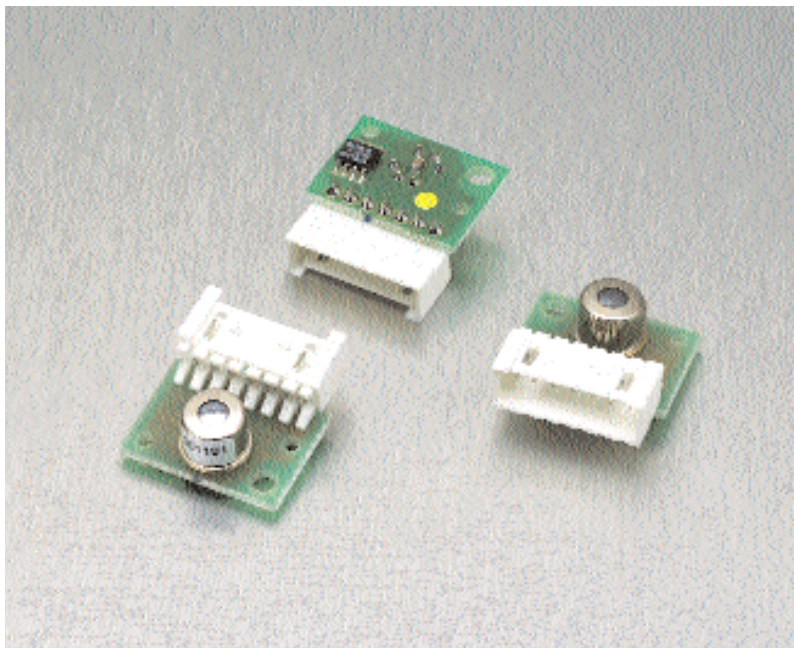


TPAM 166 L3.9 - Array Module

Thermopile Matrix Array with 4x4 Elements



Description

The integrated ThermoPile Array Sensor consists of a 4x4-element thermopile chip connected to a multiplexing signal conditioning circuit. The sensor is further equipped with an internal temperature reference for correct target temperature determination. All analog signals, including the ambient temperature, are given out in a fixed frame, containing the information in one serial stream. Lenses for different field of views are available on demand. The sensor in a TO-5 housing is mounted on a small PCB with calibration data for this specific sensor stored in a E²PROM.

Features

- Plug-In Module with Stored Calibration Data
- Integrated Optics, Multiplexer, Amplifier, Reference and Self Test Function
- Designed for Industrial Temperature Measurements

TPAM 166 L3.9 - Array Module Thermopile Matrix Array with 4x4 Elements

Figure 1. Package Drawing

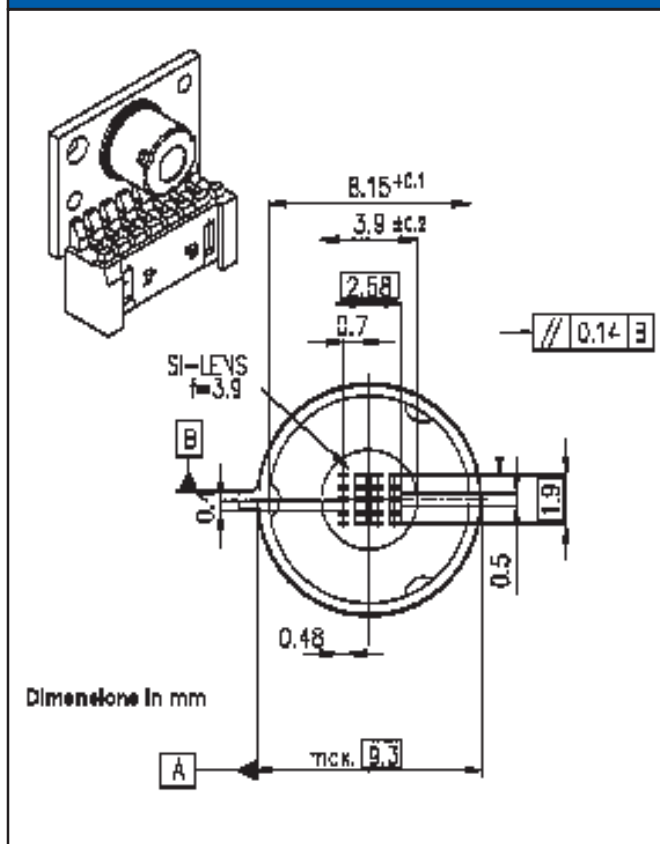


Figure 2. Output Sequence

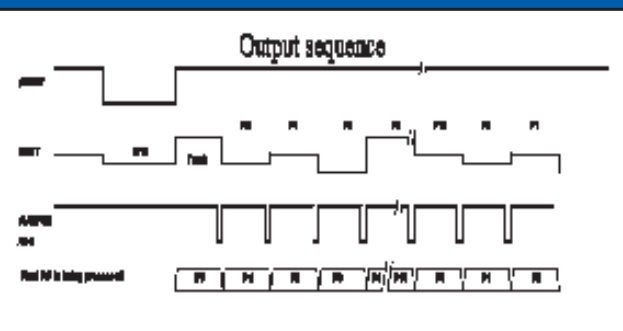


Figure 3. Top View Package Dimension

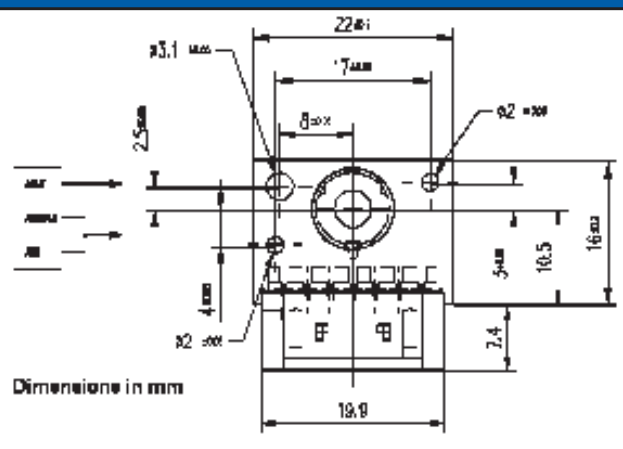


Table 1. TPAM 166 L3.9

Parameter	Typical	Units	Condition
Field of view	41 x 32	°	f/1, f = 3.9mm
Output voltage	0.95	V	T _{BB} = 80°, T _{amb} = 20°
Output noise	0.4	mV/√Hz	0.5 ... 20 Hz
Object temperature	-20 to 100	°C	
Operating voltage V _{DD}	5	V	
Operating current	1	mA	
Zero signal offset V _{ref}	V _{DD} /2	V	
Output resistance	200	Ω	
Power up time	0.3	s	
Sample frequency	3	kHz	
Storage temperature	-40 to 100	°C	
Operating temperature	-20 to 100	°C	
Temperature ref slope S _T	10	mV/K	V _{Temp} = S _T T _{amp} /K + V ₀
Temperature ref offset V ₀	0	mV	

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All values are nominal; specifications subject to change without notice.

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Figure 4. Pinout Diagram

