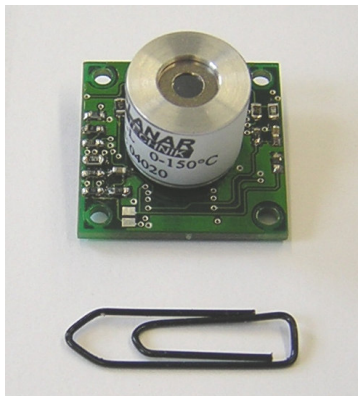


## Linear array thermopile system with digital output

TSEM 0108-L



### Function principle:

Thermopiles transform incoming heat radiation from an object to an outgoing voltage, which is correlated to the object temperature. This IR sensor is based on an 8 element linear array thermopile chip. The integrated silicon lens generates 8 individual FOV (field of view) to measure the temperature profile along a straight line at 8 separate points. The can integrated multiplexer connects selected pixels to the output channel. The object temperature is calculated digitally by a microcontroller. The calculated temperature are transmitted by an I<sup>2</sup>C output interface. The system is calibrated and compensated for ambient temperature effects and can be adapted for different emissivity factors.

### Applications

- Home appliances (Microwave oven)
- Medical (Skin temperature)
- Automotive (Air conditioning)
- Security ( Presence detection)

### Advantages

- Small size
- Easy to integrate
- Low cost unit
- Low vibration sensitivity

### Specification

	Conditions	Min	Typ	Max	Unit
Object temperature range <sup>1)</sup>		0		+150	°C
Accuracy			2		% of FS
Resolution (digital)			0.5		°C
Data output rate			10		Hz
FOV			20		°
Power voltage supply		4,75	5	5,25	VDC
Current consumption			6		mA
Operation temperature range		0		+85	°C
Storage temperature range		-40		+105	°C
Dimensions	W x D x H		25 x 25 x 19		mm

<sup>1)</sup> Subject to change