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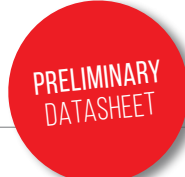


➤ PRODUCT DATA SHEET



MTS1 TEMP eco

Thermal IR detectors for temperature measurement



The thermo-electric IR detectors of the MTS eco series (Micro-Hybrid thermopile sensors) are developed for mass market applications.

The base of each thermopile detector is formed by the so-called thermocouple. Due to thermal diffusion currents of two different metals (Seebeck effect), it generates an electrical voltage – the measurement signal. These thermocouples, called thermopiles, achieve higher output voltage in series connection.

The sensitive component of Micro-Hybrid thermopile detectors is a MEMS-based thin-layer system on a silicon substrate.

FEATURES

- Good sensitivity
- Suitable for consumer applications

APPLICATIONS

- **Consumer markets:** Temperature measurements and monitoring for home and building
- **Life science medicals:** Contact-less temperature measurement of laboratory parameters

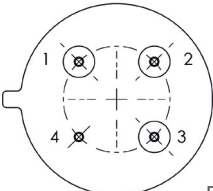
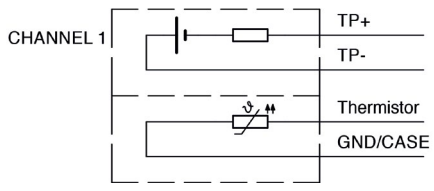
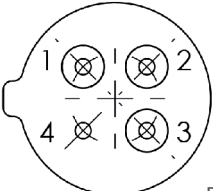
BENEFITS

- Cost effective components
- High volume availability

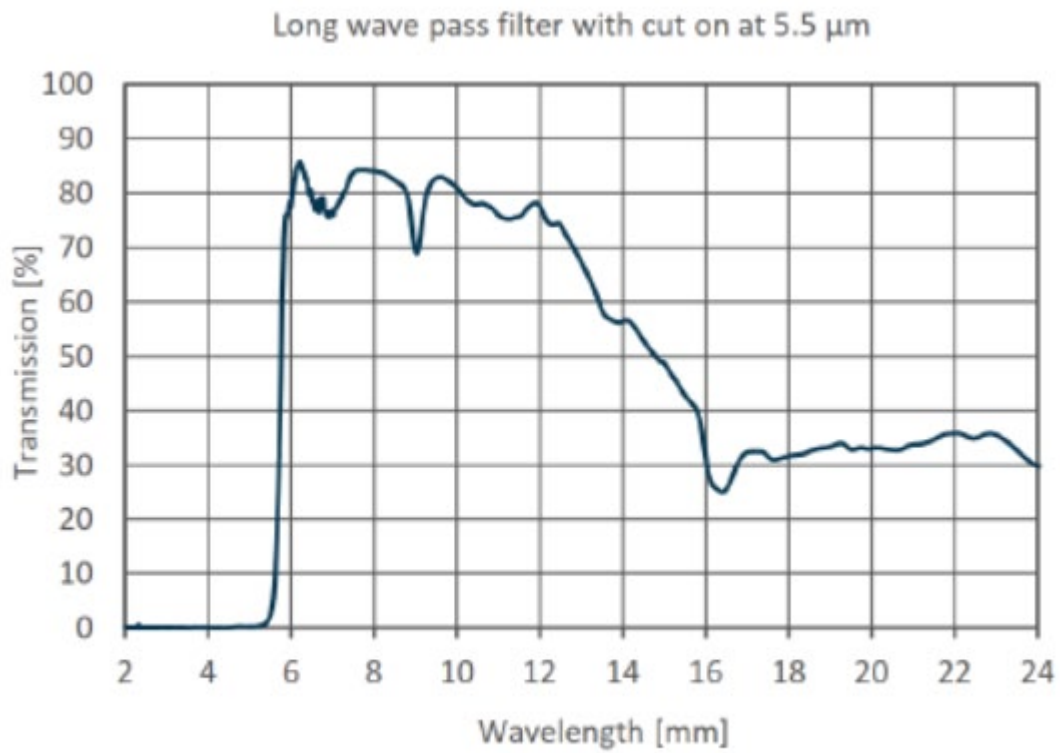
Technical data

Technical parameter	TEMP eco T039	TEMP eco T046	Unit
Active area	0.7 x 0.7	0.7 x 0.7	mm ²
Aperture	∅ 2.55	∅ 2.55	mm
Time constant _(10-90 %)	typ. 22	typ. 22	ms
DC sensivity	typ. 45	typ. 45	V/W
Noise voltage	typ. 35	typ. 35	nV/Hz ^{1/2}
Noise equivalent power NEP	typ. 0.78	typ. 0.78	nV/Hz ^{1/2}
Specific dectivity D*	typ. 0.9*10 ⁸	typ. 0.9*10 ⁸	cmHz ^{1/2} /W
Resistance of thermopile	typ. 75 ± 25	typ. 75 ± 25	kΩ
Thermistor	NTC 100K6CG3	NTC 100K6CG3	
Filling gas	N ₂	N ₂	
Filters	Si, cut on 5.5 μm	Si, cut on 5.5 μm	

Pin out

 <p>Bottom view T039</p>	<ul style="list-style-type: none"> ▪ Pin 1 – TP+ ▪ Pin 2 – TP- ▪ Pin 3 – NTC ▪ Pin 4 – Case 	 <p>Top view</p>
 <p>Bottom view T046</p>	<ul style="list-style-type: none"> ▪ Pin 1 – TP+ ▪ Pin 2 – NTC ▪ Pin 3 – TP- ▪ Pin 4 – Case 	

Typical operating characteristics of IR detectors > MTS1 Temp eco



Product overview

Article		Temp. min	Temp. max	Aperture	Channel	Package
TS1xEco-A-D2.55-3-1-B2		-20 °C	85 °C	2.55 mm	1	T039
TS1xEco-B-D2.55-3-1-B2		-20 °C	85 °C	2.55 mm	1	T046

Micro-Hybrid's offer includes IR emitter of our subsidiaries **NOVA IR** and **CMOSIR**.
 All IR emitters are supplied in a TO or SMD housing. We ship from stock and on demand.