



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China





TS418-1N426

THERMOPILE SENSOR

SPECIFICATIONS

- **Thermopile IR-Sensor**
- **Filter for NDIR CO2 Gas Detection**
- **Single Element**
- **Very High Signal**
- **Flat Filter**
- **Small Package**
- **Accurate Reference Sensor**

Thermopiles are mainly used for contactless temperature or non-dispersive infrared measurement in many applications. Their function is to transfer the heat radiation emitted from the objects or other infrared sources into a voltage output.

FEATURES

Very High Signal

Accurate Reference Sensor

4.26 μ m Narrow Band Pass

Small TO-18 package

APPLICATIONS

NDIR CO₂ Gas Detection

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Min	Typical	Max	Unit	Description
Storage Temperature	T _S	-20	+20	+85	°C	permanent
Storage Temperature	T _S	-20	+20	+100	°C	non permanent

PERFORMANCE SPECS

Parameter	Symbol	Value	Unit	Condition
Operating Ambient Temperature	T _{Amb}	-20 to +85	°C	permanent
Operating Ambient Temperature	T _{Amb}	-20 to +100	°C	non permanent
Package		TO-18		
Absorber Area	A	1.4 × 1.4	mm ²	
Thermopile Resistance	R _{TP}	180 ± 60	k Ω	T _{Amb} = +25°C
Temperature Coefficient of Thermopile Resistance	TCR _{TP}	-0.06 ± 0.04	%/K	T _{Amb} = +25°C to +75°C
Voltage Response	V _{TP}	depends on light source	mV	
Temperature Coefficient of Voltage Response	TCV _{TP}	-0.45 ± 0.08	%/K	T _{Amb} = +25°C to +75°C
Noise Equivalent Voltage	NEV	130	nV/Hz ^{1/2}	T _{Amb} = +25°C
Rise Time	τ_{63}	22 ± 5	ms	
Ambient Temperature Sensor		Ni-RTD		
Ambient Temperature Sensor Resistance	R _{Ni-RTD}	1000 ± 4	Ω	T _{Amb} = 0°C
Temperature Coefficient of Ni-RTD	TC _{Ni-RTD}	6178 ± 150	ppm/K	T _{Amb} = 0°C to +100°C

TYPICAL PERFORMANCE CURVES

The typical performance of a CO₂-sensor depends on many external parameters.

These can be the for example:

- infrared light source
- optics (lens, mirror waveguide)
- length of the absorbing path

Therefore a typical performance curve cannot be shown.

OPTICAL CHARACTERISTICS

Parameter	Symbol	Value	Unit	Description
Field of View	FOV	110	deg	at 50% of maximum signal

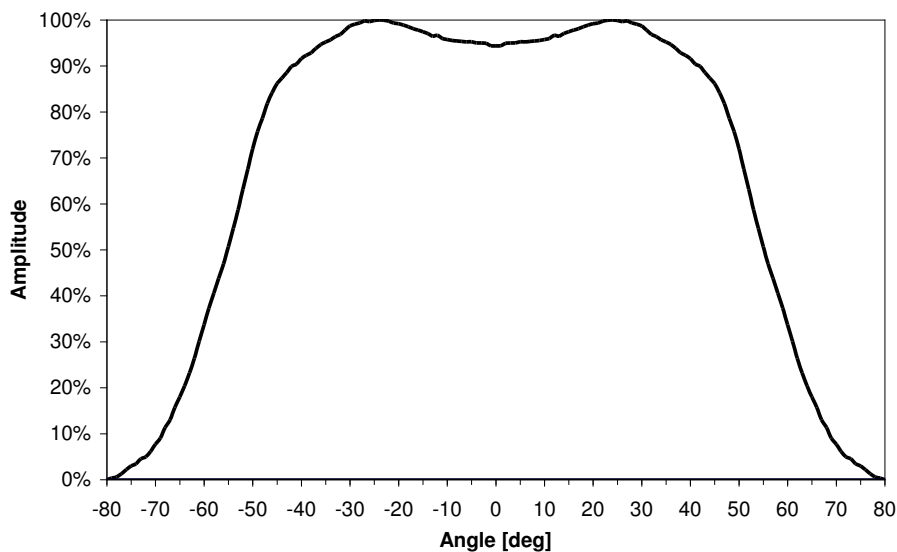


Figure 2: Field of View Curve

FILTER CHARACTERISTICS

Parameter	Symbol	Value	Unit	Description
Filter Type	NBP	4.26 ±0.18	μm	Narrow Band Pass

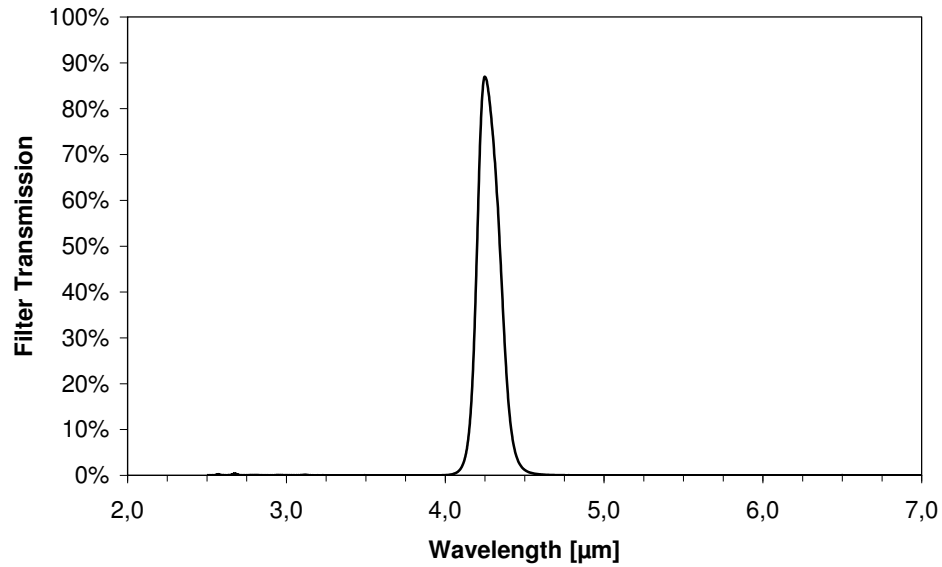


Figure 3: Filter transmission curve

ELECTRICAL CONNECTIONS

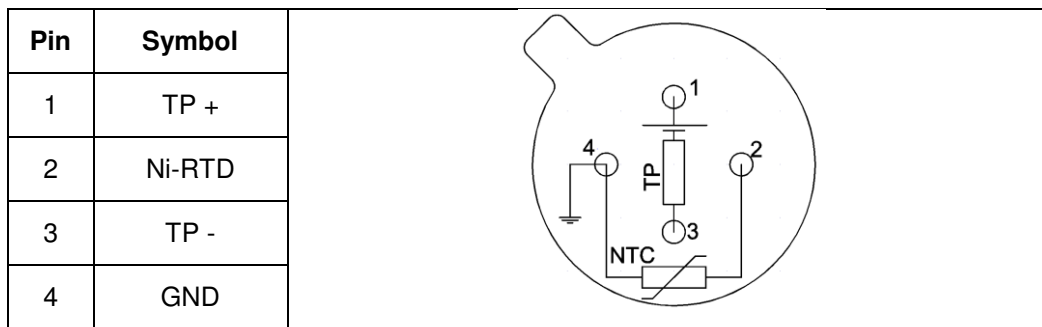


Figure 4: Electrical connections - bottom view of thermopile

MECHANICAL DIMENSIONS

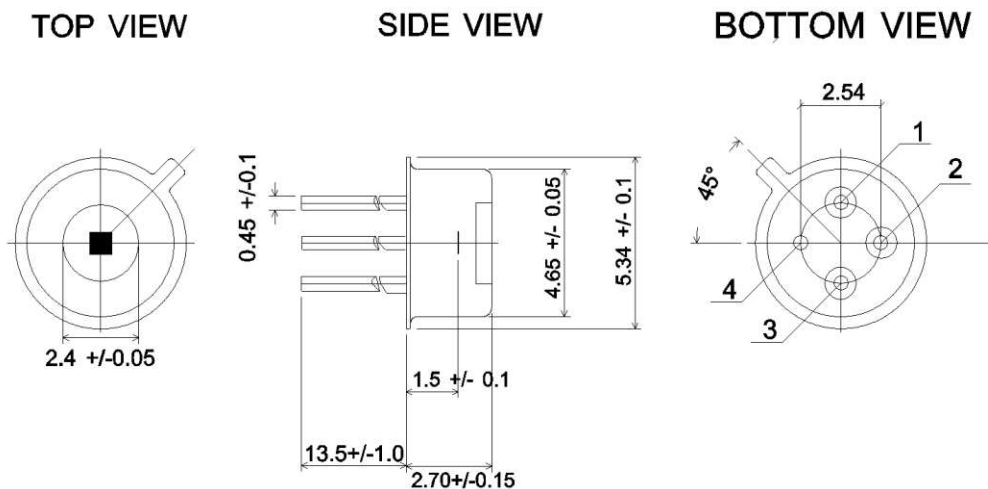


Figure 5: Mechanical dimensions of thermopile

Ordering INFORMATION

Part Description	TS418-1N426
Part No.	G-TPCO-035

NORTH AMERICA

Measurement Specialties, Inc.,
a TE Connectivity Company
910 Turnpike Road
Shrewsbury, MA 01545
United States
Phone: +1-508-842-0516
Fax: +1-508-842-0342
Email: temperature.sales.amer@meas-spec.com
Web: www.meas-spec.com

EUROPE

Measurement Specialties (Europe), Ltd.,
a TE Connectivity Company
Deutschland GmbH
Hauert 13
D-44227 Dortmund
Germany
Phone: +49-(0)231-9740-0
Fax: +49-(0)231-9740-20
Email: info.de@meas-spec.com
Web: www.meas-spec.com

ASIA

Measurement Specialties (China), Ltd.,
a TE Connectivity Company
No. 26 Langshan Road
Shenzhen High-Tech Park (North)
Nanshan District, Shenzhen 518057
China
Tel: +86 755 3330 5088
Fax: +86 755 3330 5099
Email: temperature.sales.asia@meas-spec.com
Web: www.meas-spec.com

TE.com/sensorsolutions

Measurement Specialties, Inc., a TE Connectivity company.

Measurement Specialties, TE Connectivity, TE Connectivity (logo) and EVERY CONNECTION COUNTS are trademarks. All other logos, products and/or company names referred to herein might be trademarks of their respective owners.

The information given herein, including drawings, illustrations and schematics which are intended for illustration purposes only, is believed to be reliable. However, TE Connectivity makes no warranties as to its accuracy or completeness and disclaims any liability in connection with its use. TE Connectivity's obligations shall only be as set forth in TE Connectivity's Standard Terms and Conditions of Sale for this product and in no case will TE Connectivity be liable for any incidental, indirect or consequential damages arising out of the sale, resale, use or misuse of the product. Users of TE Connectivity products should make their own evaluation to determine the suitability of each such product for the specific application.

© 2015 TE Connectivity Ltd. family of companies All Rights Reserved.