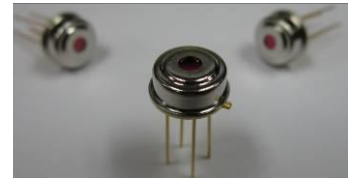


NDIR SENSOR

NDIR CO2 Gas Sensor

OGS-401F2

Revision Date: 2015/10/12



Introduction

OGS-401F2 is a single channel thermopile device having an output signal voltage directly proportional to the incident infrared (IR) radiation power. An infrared narrow band pass filter in front of the sensor makes the device sensitive to CO₂ gas concentration.

Features

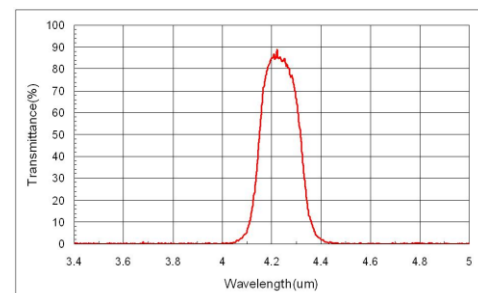
- Thermistor temperature reference included
- Fast response time
- High sensitivity
- Narrow band pass filters

Applications

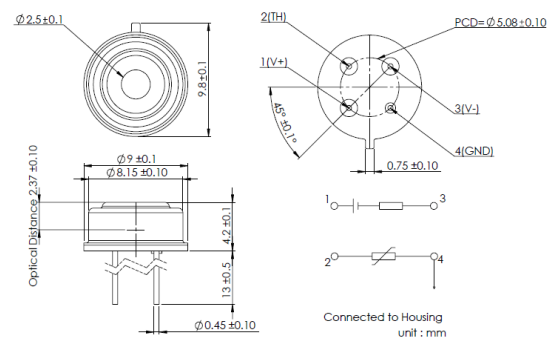
- IR absorption (NDIR) gas sensing with reference channel to monitor light source
- Demand Control Ventilation (DCV)
- In door air quality monitoring
- Obstructive Sleep Apnea monitoring
- Industrial control
- Climate Control for Automobiles
- Combustion Control for Furnace
- Greenhouse

Specifications

Model	OGS-401F2		
Target Gas	CO ₂		
Filter CWL	4.26 μm		
Window Size (mm)	2.5mm		
Package Type	TO-5		
Parameter	Typical	Unit	Conditions
Sensitivity	46	V/W	500K, Typical
TC of sensitivity	0.22±0.05	%/K	Typical
Sensitive area in diameter	0.7	mm	
Resistance of thermopile	115±35	KΩ	25°C
TC of resistance	0.11±0.05	%/K	Typical
Time constant	20	ms	500K, Typical
Noise voltage	43	nV/Hz ^{1/2}	r.m.s. 300K
NEP	0.95	nW/Hz ^{1/2}	500K, Typical
Normalized detectivity (D*)	0.9*10 ⁸	cm*Hz ^{1/2} /w	500K, Typical
Thermistor	Typical	Unit	Conditions
Resistance	100±5%	KΩ	25°C
β value	3964±0.5%	K	25°C /100°C



Transmittance of 4.26μm filter



Mechanical Dimension