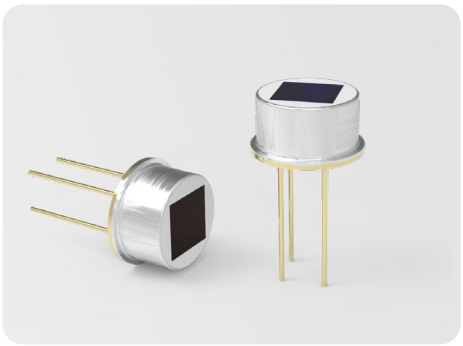
MFrontier
美 思 先 端

Pyroelectric flame sensor

MPY30-A211T-4.3μm

MPY30-A211T pyroelectric flame electric sensor has high response rate, with a wide field of view of 110°, and good rapid recovery ability from thermal shock and electrical shock. This voltage mode sensor has a high signal-to-noise ratio in the flame's signature 5-20Hz flicker range, providing accurate flame source identification in triple infrared flame detection systems. The sensor element is built into a low-noise circuit that has an internal JFET with a 50GΩ feedback resistor.



Features

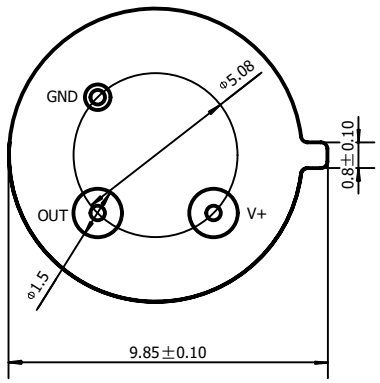
- Single channel
- TO-39 package
- Low power consumption
- Single power supply
- JFET
- Voltage mode

Applications

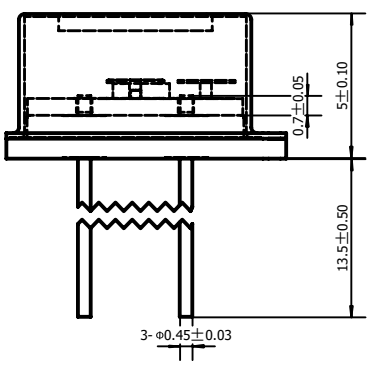
- Flame detection
- Security career
- Industrial production
- Natural resource monitoring

Product Size

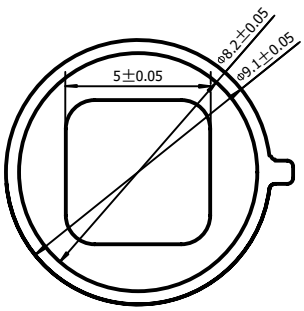
unit：mm



bottom view



main view



top view

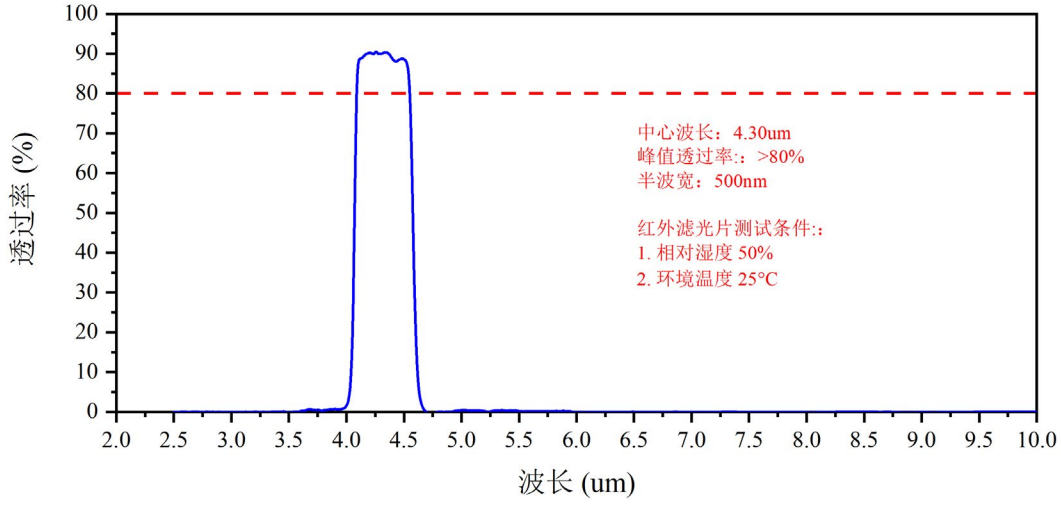
Parameters

Technical indicators	Typical value
Window size	5.0×5.0mm
Sensitive element size	2.0×2.0mm
Feedback resistor	50GΩ
Working Voltage	2-10V
Recommended voltage	5V
Noise density(10HZ,BW1HZ,25℃)	⩽ 150nV/$Hz^{1/2}$
Voltage response rate (no window) Rv(500K,10HZ,25℃)	⩾ 280V/W
Specific detection rate (no window)D*(500K,10HZ,BW 1HZ,25℃)	⩾ 3.8×10^{8}cm・$Hz^{1/2}$/W
Field of view	110°
Detection distance	35~50m
Working temperature range	-40~+80℃
Storage temperature range	-40~+80℃
Filter center wavelength	4300±30nm
Half width	500±30nm
Peak transmittance	80%

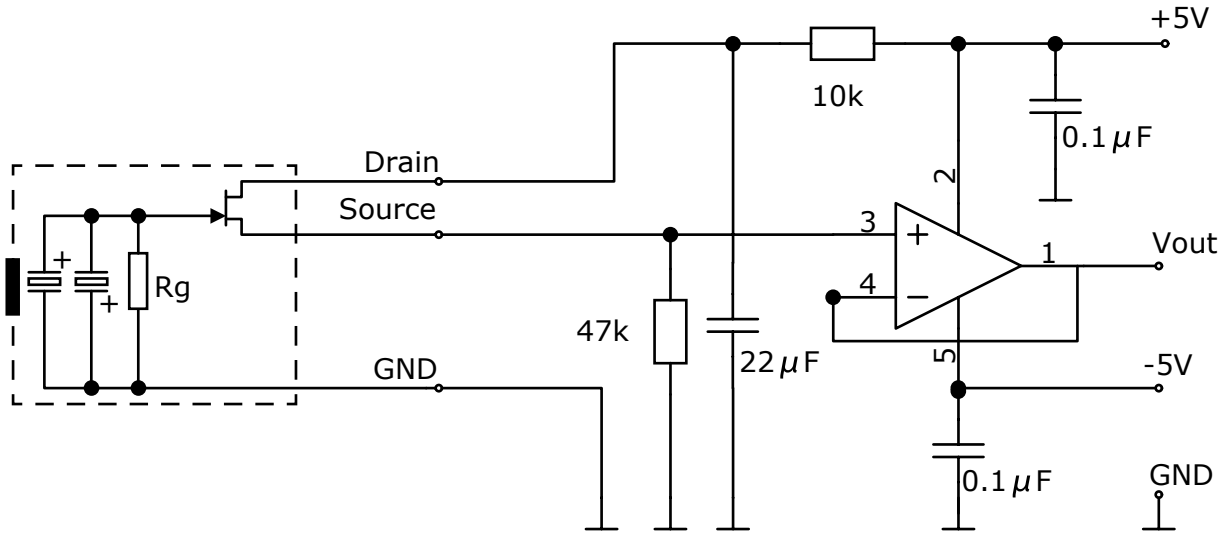
Note: All maximum and minimum values are measured at 5V, 25°C, unless otherwise specified.

Filter specifications

parameter	value	unit
central wavelength	4.30±0.03	μm
Half wave width	500±30	nm
Peak transmittance	>80	%



Test circuit diagram



Electrical connections

pin	1	2	3
definition	V+	Out	GND

Version history

Date	Version	Change
2022.05.01	1.0	initial version
2023.09.01	1.1	brand upgrade

Shenzhen MemsFrontier Electronics Co.,Ltd.
Web: www.memsf.com
Tel: 0755-21386871
Add: 3&5 Floor B2 Building, Zhaoshangju Technology Park, Guangming District, 518107, Shenzhen, China