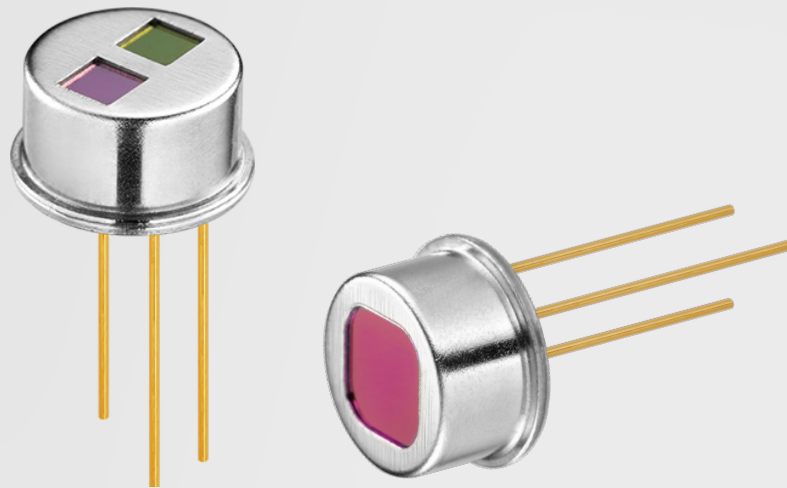# MPY30 series

Pyroelectric flame sensor

Flame detector, also known as photosensitive fire detector, is a fire detector that can detect the light intensity of flame burning and the flicker frequency of flame. In environments such as factories, forests, and buildings where fires may occur and cause fires to spread rapidly, pyroelectric flame sensors can play a key role.

Most of the flame radiation spectrum produced when organic matter is burned is at 4.3μm, which means there will be strong radiation near the absorption band of carbon dioxide, and will flicker in the frequency range of 5Hz-20Hz. These two characteristics are the key elements for the pyroelectric flame sensor to sense and judge fire. With its outstanding advantages of high sensitivity and strong stability, the pyroelectric flame sensor has become one of the preferred sensors for flame detection.

Features

- Voltage mode, simple structure
- Current mode, fast signal response
- Large viewing angle, wide detection range
- Thermal compensation chip effectively reduces noise interference
- Ultra-thin lithium tantalate chip, high response rate, highly sensitive to flames
- Nitrogen packaging, high stability

Parameters

Model	MPY30-A211T-4.3μm	MPY30-A221T-4.3μm	MPY30-A211-3.8/5.3μm
Picture			
Packaging form	TO-39	TO-39	TO-39
Window size	$5.0 \times 5.0 mm^2$	$5.0 \times 5.0 mm^2$	$5.0 \times 5.0 mm^2$
Size of sensitive element	$2.0 \times 2.0 mm^2$	$2.0 \times 2.0 mm^2$	$1.6 \times 1.6 mm^2$
Feedback resistor	50GΩ	100GΩ	50GΩ
Operating Voltage	2~10V	2~5V	2~10V
Voltage response rate (no window) Rv(500K,10Hz,25℃)	≥ 280V/W	≥ 60000V/W	≥ 380V/W
Noise density (10Hz, BW1Hz, 25℃)	≤ $150nV/Hz^{1/2}$	≤ $12μV/Hz^{1/2}$	≤ $150nV/Hz^{1/2}$
Specific detection rate (no window) D*(500K,10Hz,BW1Hz,25℃)	≥ $3.5 \times 10E8 cm \cdot Hz^{1/2}/W$	≥ $3.8 \times 10E8 cm \cdot Hz^{1/2}/W$	≥ $3.5 \times 10E8 cm \cdot Hz^{1/2}/W$
Field of view	≥ 110°	≥ 110°	≥ 60°
Detection distance	35~50m	35~50m	35~50m
Working/storage temperature	-40~80℃	-40~80℃	-40~80℃

* The specific parameters are subject to the specifications. For more technical information, please contact info@memsf.com

Applications

Public safety	Industrial manufacturing	Smart building	Smart fire protection

深圳市美思先端电子有限公司
Shenzhen MemsFrontier Electronics Co.,Ltd.
Web: www.memsf.com
Email: info@memsf.com
Add: Building B2, Guangming Technology Park, Investment Promotion Bureau, Fenghuang Subdistrict, Guangming District, Shenzhen