



Pyroelectric Low Noise Flame Detector PS1x3C10-A-D3.7

Pyroelectric one-channel current mode detector for flame detection with large active area and bipolar low noise circuit.

| | | |
|-------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|
| Active Area | 1.65 x 1.65 | mm ² |
| Aperture | Ø 3.7 | mm ² |
| Mode | Current | |
| Time Constant $t_{(0-63\%)} \text{ thermal}$ | typ. 62 | ms |
| Time Constant $t_{(0-63\%)} \text{ electrical}$ | typ. 0.02 | ms |
| AC Sensitivity ^{1,2,3} | typ. 2000 | V/W |
| Noise Density Voltage ¹ | typ. 1.5 | $\mu\text{V}/\text{Hz}^{1/2}$ |
| Noise Equivalent Power NEP ^{1,2,3} | typ. 7.5×10^{-10} | W/Hz ^{1/2} |
| Specific Detectivity $D^* \text{ }^{1,2,3}$ | typ. 2.20×10^8 | cmHz ^{1/2} /W |
| Microphonic Voltage ¹ | typ. 50 | $\mu\text{V}/\text{g}$ |
| Filling Gas | Kr | |
| Filters | It is recommended to use filters with a CWL of 4.3 μm or 5 μm . Customized filters on request. For more information please see document "infrared filters". | |
| Operation Voltage VDD+ | $\pm 2.2 \dots \pm 8$ | VDC |
| Operation Current | max. 0.07 | mA |
| Feedback Resistor | 0.1 | GOhm |
| Feedback Capacitor | 200 \pm 50 | fF |
| Operation Temperature | -25 ... +125 | °C |
| Mass | ~1 | g |
| Housing | T039 (modified) | |

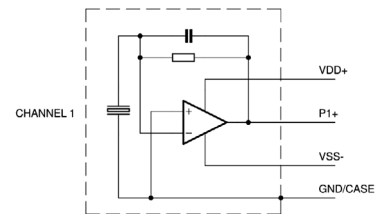
¹ at T_{amb}=25 °C, 10 Hz, band width 1 Hz

² Blackbody T=500 K; E=38 W/m²

³ on air without windows



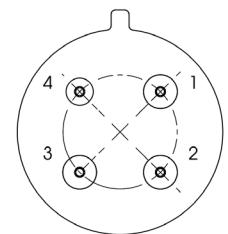
Equivalent Circuit



Pin Assignment

Bottom View

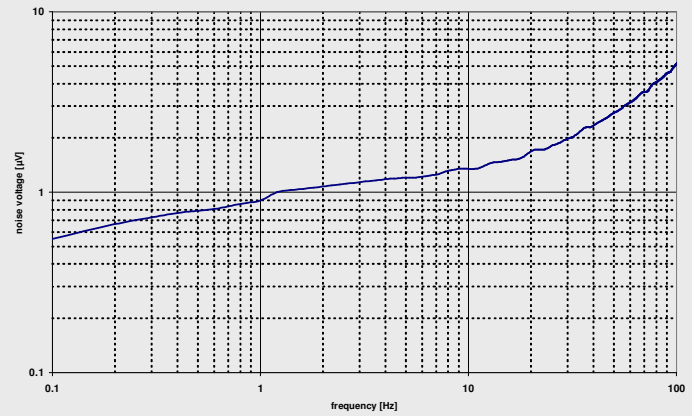
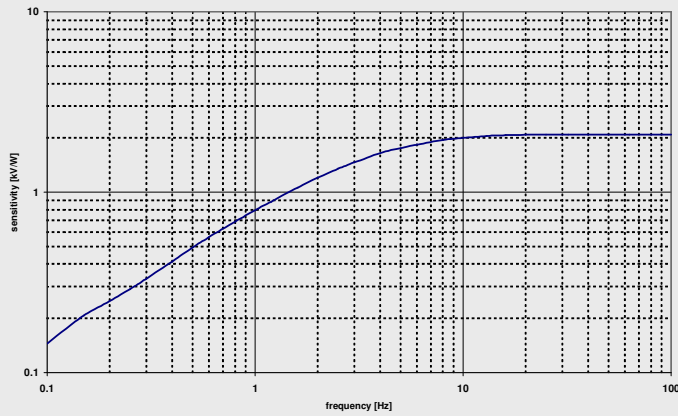
- Pin 1 VSS-
- Pin 2 VDD+
- Pin 3 Output P1+
- Pin 4 GND



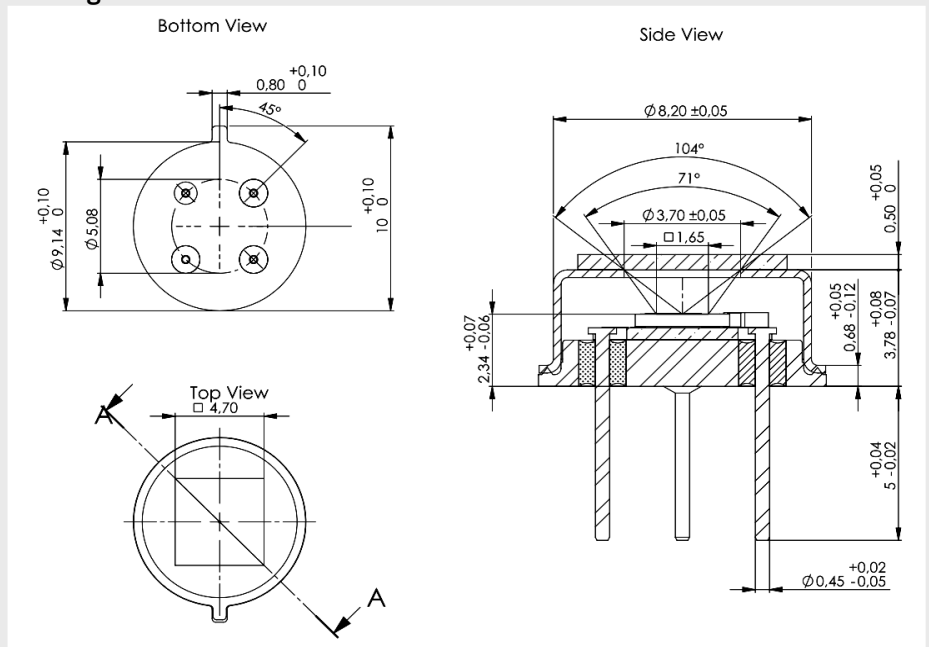
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Frequency Response



Housing



Ordering Information

PS1x3C10A-S1.5-Filling Gas (GG)-Filter (H)

e.g. PS1x3C10-A-S1.5-Kr-E1

Optional parts

IR-Source JSIR 350 - Fast IR emitter based on thin film technology
Art.-Nr. 6353.01-3.01

Evaluation Kit - For independent evaluation of emitters and detectors
Art.-Nr. 7206.01-A.00