Mid Infrared Detector 1 – 3 µm

(Lead Sulfide, TEC Cooling, Build-in Chopper)

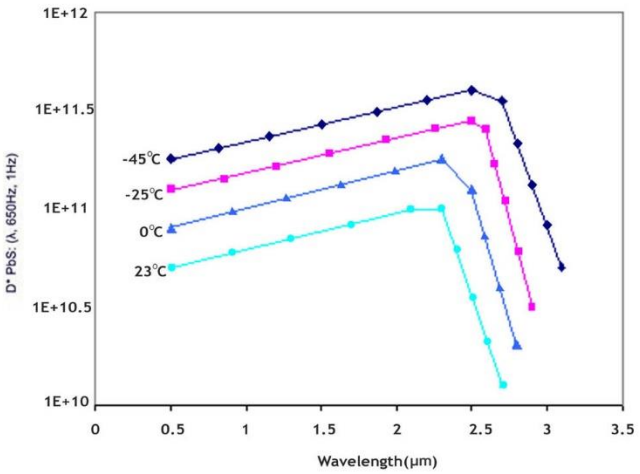
DATASHEET

BUY NOW

The CPOD serials lead sulfide detectors (PbS) provide enhanced sensitivity for detecting mid-infrared light in the 1-3 µm range. These detectors are hermetically sealed to ensure low leakage. Within the detector package, a thermoelectric cooler and a MEMS chopper are integrated, significantly reducing background noise while maintaining a compact format. Additionally, a driving PCB with an amplifier is available for convenient use.

All stock detectors undergo a minimum four-week aging period. Experience with detectors manufactured through our proprietary process, which includes the aforementioned aging period, has shown the electrical characteristics to remain stable to within 10% for over a year. The typical response for PbS detectors operates in the 0.5 to 3 micron spectral region with time constants below 400 µsec. TE-cooled packages are also available with a response in the 0.5 to 3 micron region, featuring increased D*.

A typical spectral response of a standard PbS detector is depicted below.



Features

- 1 - 3 µm
- Low Noise
- Long Life
- Hermetic Sealed Detector
- MEMS Chopper Integration

Applications

- OEM
- Lab user
- Instruments
- Fire Detections

Specifications

Parameter	Min	Typical	Max	Unit
Resistance	0.5		2.0	MΩ
Time Constant	200		400	µ sec
D* (λ, 200, 1) x 10^{11}	0.5		0.6	cm•Hz^{½}•W^{-1}
Cooling	-40		-5	°C

Rev 03/05/25

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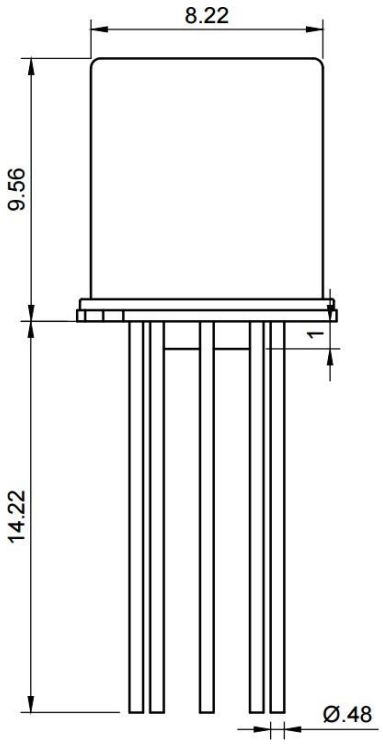
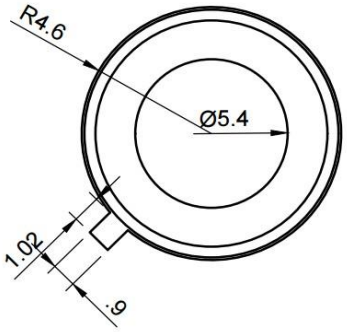
Mechanical Dimensions (mm)

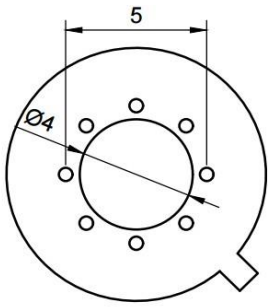
Front View



Top View



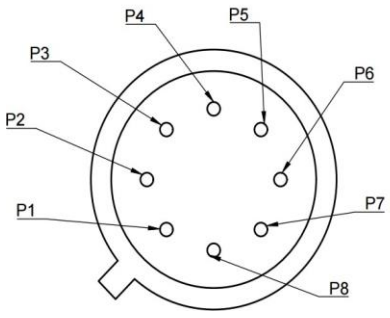
Bottom View



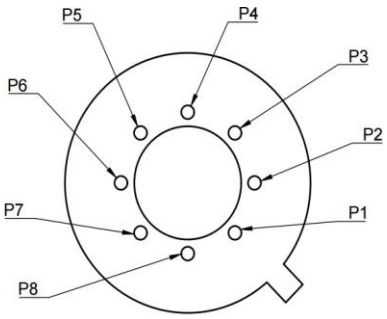
*Product dimensions may change without notice. This is sometimes required for non-standard specifications.

Contacts Assignment

Top View



Bottom View



PIN NUMBER	ASSIGNMENT
P1	TEC (+)
P2	TEC (-)
P3	Thermistor
P4	Thermistor
P5	MEMS Chopper
P6	MEMS Chopper
P7	PbS
P8	PbS

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Ordering Information

	3	☐	☐	1	☐	☐	☐☐
Prefix	**Material Type**	**TEC Type**	**Integrated Chopper**	**Element Size**	**Window**	**AR Coated**	**Driver**
CPOD-	PbS =3	1 stage 0°C = 1 2 stage -20°C = 2 3 stage -40°C = 3	None =1 Yes =2	1x1mm = 1	Quartz = 1 Spectral Filter = S Sapphire = 2	No = 0 Yes = 1	No = 00 Yes = 11

Application Notes