

Mid Infrared Detector 1 - 3 μm

(Lead Sulfide, Build-in Chopper)



DATASHEET

BUY NOW



Features

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

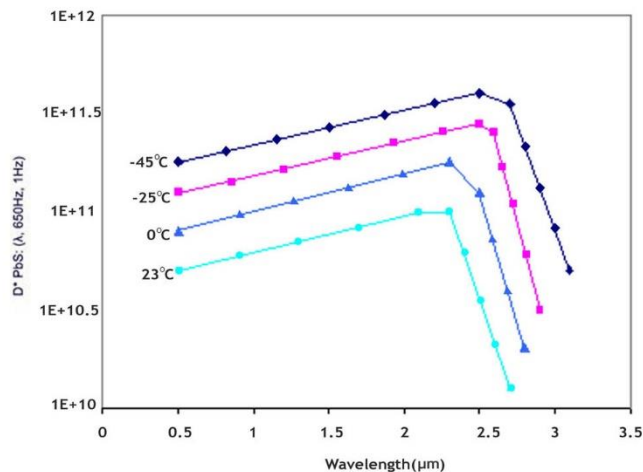
Applications

- OEM
- Lab user
- Instruments
- Fire Detections

The MIRD 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.



Specifications

Parameter	Min	Typical	Max	Unit
Resistance	0.5		2.0	$\text{M}\Omega$
Time Constant	200		400	μsec
D^* (λ , 200, 1) $\times 10^{11}$	0.5		0.6	$\text{cm}\cdot\text{Hz}^{1/2}\cdot\text{W}^{-1}$
Cooling	-40		-5	$^{\circ}\text{C}$

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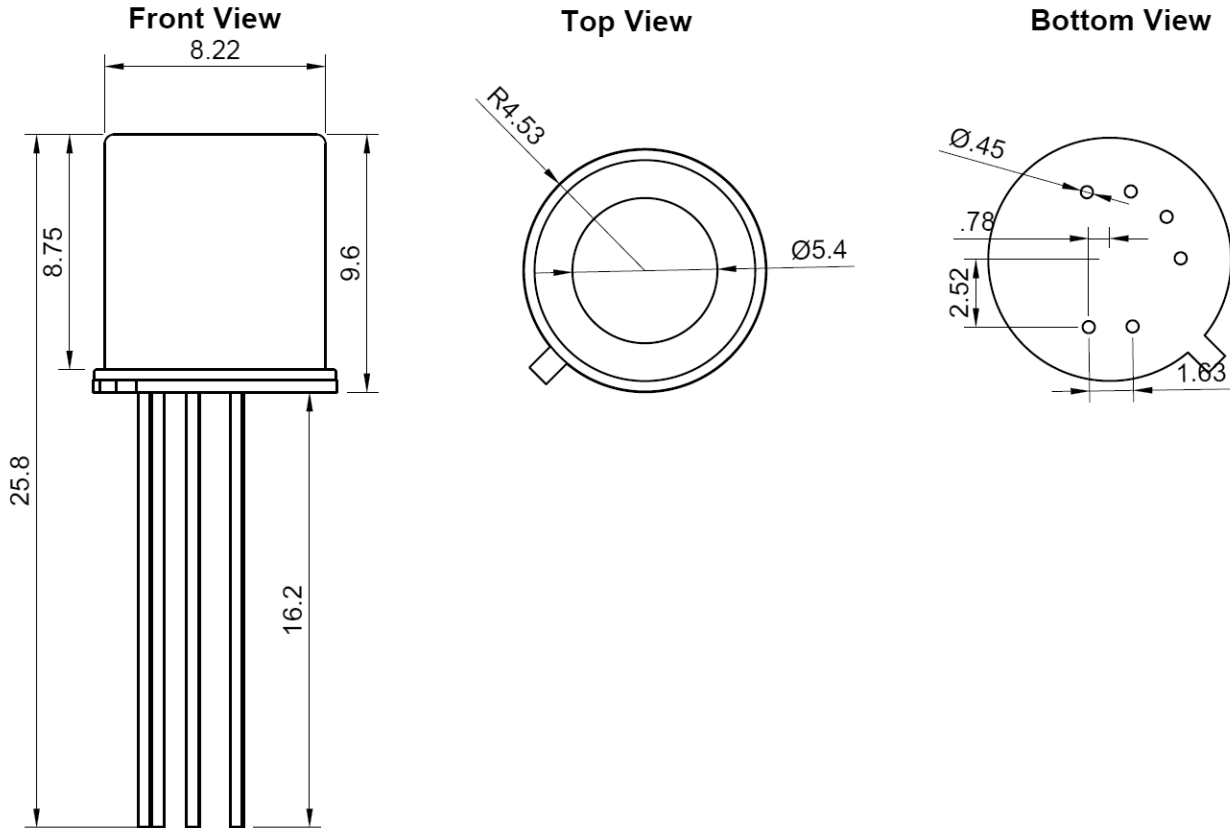
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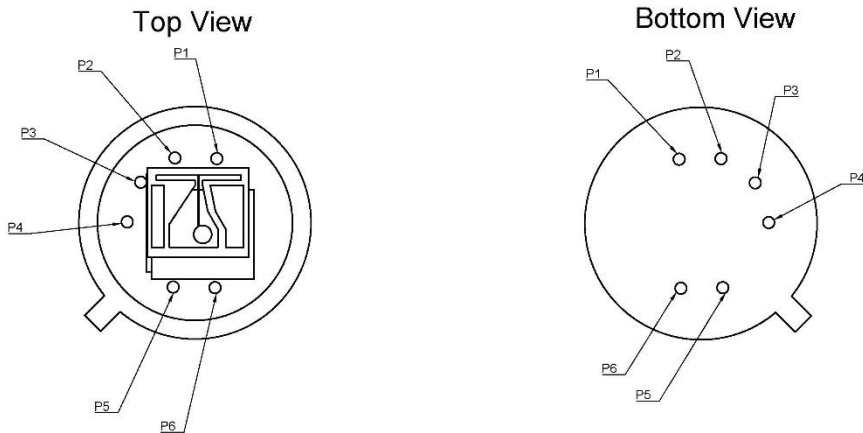
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Mechanical Dimensions (mm)



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

Contacts Assignment



PIN NUMBER	ASSIGNMENT
P1	VOA ; Thermistor
P2	VOA ; Thermistor
P3	TEC (-)
P4	TEC (+)
P5	PbS
P6	PbS

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Ordering Information

	3	<input type="checkbox"/>	<input type="checkbox"/>	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
Prefix	Material Type	TEC Type	Package	Element Size	Window	AR Coated	Driver
MIRD-	PbS =3	1 stage 0°C = 1 2 stage -20°C = 2 3 stage -40°C = 3	TO-5 = 5 Box = B	1x1mm = 1	Quartz = 1 Spectral Filter = S Sapphire = 2	No = 0 Yes = 1	No = 00 Yes = 11

Application Notes