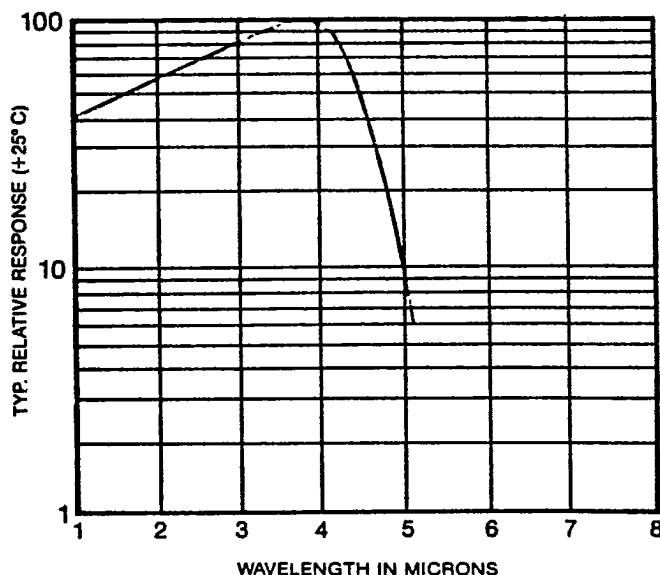


T-41-41

## BP SERIES PbSe Packaged Detectors



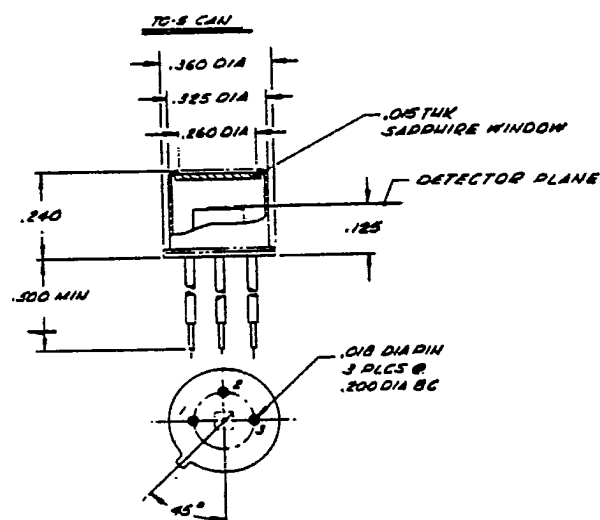
### DESCRIPTION:

BP series Lead Selenide (PbSe) detectors are packaged in either TO-5 or TO-8 cans. P/N BP-25 Example PbSe, 2mm sq., TO-5. (see order data)

These detectors are designed for applications requiring good sensitivity in the 1 to 5 micron spectral region and offer an economical choice for uncooled detectors where performance in rugged environments may downgrade flat plate units.

BP series detectors are hermetically sealed using the latest packaging techniques to assure a long productive operation. The PbSe detectors are fully passivated with a protective overcoat. This passivation coating eliminates instabilities generally associated with PbSe detectors.

CAL-SENSORS' PbSe process provides the ability to produce detectors matching system demands in the 1 to 5 micron spectral region without cooling and providing a compact rugged sensor.



**BP SERIES PbSe PACKAGED DETECTORS FEATURE:**

High sensitivity over the 1 to 5  $\mu\text{m}$  spectral region  
 Hermetically sealed - excellent stability and reliability  
 Fast response  
 Room temperature operation  
 Low cost - fast delivery

**SPECIFICATIONS**

Characteristic	Operating Conditions	Performance			Units
		Minimum	Typical	Maximum	
Ambient temperature			+25	+65	$^{\circ}\text{C}$
Element temperature	All specifications apply at		+25		$^{\circ}\text{C}$
D* (detectivity)	500°K, 1KHz, 1Hz	$1.0 \times 10^8$	$2.5 \times 10^8$		$\text{cmHz}^{1/2}\text{W}^{-1}$
D* (detectivity)	$\lambda_{pk}$ , 1KHz, 1Hz	$1.0 \times 10^9$	$2.5 \times 10^9$		$\text{cmHz}^{1/2}\text{W}^{-1}$
Wavelength of max. response		3.7	3.8 to 4.0		$\mu\text{m}$
Element resistance (dark)		0.05	0.5	2.0	Meg ohms/ $\square$
Time constant	(not measured)		1.5	3.0	$\mu\text{sec}$
Responsivity	$\lambda_{pk}$ , 1KHz				$\text{VW}^{-1}$
Element size 1mm x 1mm		4,000	6,000		
Element size 2mm x 2mm		2,000	3,000		
Element size 3mm x 3mm		1,300	2,000		
Optimum detector bias	With 1M $\Omega$ load resistor				Volts
Element size 1mm x 1mm			50	100	
Element size 2mm x 2mm			100	200	
Element size 3mm x 3mm			150	300	
Field of view					Degrees
Element size 1mm x 1mm	TO-5		80		
Element size 2mm x 2mm	TO-5		70		
Element size 3mm x 3mm	TO-5		55		

**When ordering standard detectors, specify:**

Type	Element Size	Package
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BP-15 1mm x 1mm TO-5

BP-25 2mm x 2mm TO-5

BP-35 3mm x 3mm TO-5

1. Other standard element sizes, including rectangular elements, are also readily available.
2. Max. element size for TO-18 is 1mm x 1mm.
3. Max. element size for TO-5 is 4mm x 4mm.
4. Please inquire about other standard packages which are built to accommodate element sizes larger than 4mm x 4mm.
5. Field of view of detectors may be increased by raising the detector plane height.
6. Refer to other data sheets for cooled detectors.