

SCD-13HV High value PbS single element detectors

Key Features:

- Designed to meet high volume, cost sensitive application needs
- Highest value detectors operating across 1-3 micron region
 - High sensitivity with typical D^* up to 1.75×10^{11} cm Hz^{1/2}/W
 - Choice of 1mm to 3 mm sq. elements with glass window/lens
- Apply high volume automated equipment and superior process controls to produce high performance while minimizing costs
- Deliver repeatable and consistent results batch to batch
 - Promote efficient end-user instrument assembly



Cal Sensor's SCD-13HV (single-channel high value detector) product line integrates recognized PbS technology with volume manufacturing processes to provide the optimal balance of detector performance, volume, and cost across the one to three micron spectrum. In addition, SCD-13HV products minimize maintenance cost and assure dependable operation with industry-leading reliability.

To meet customer's high volume demand and need for competitive pricing, Cal Sensors has developed a high value product line which leverages historical capabilities and new large batch processing resources. The SCD-13HV product line provides consistent performance within and among batches to facilitate seamless installation in customer's instruments.

Available with a glass window or lens, customers can choose from a one, two, or three mm square element size and TO-46 or TO-5 packaging to suit various system and application requirements. The glass window offers basic performance specifications for standard signal detection levels. The lens window offers superior performance specifications for use in applications with a diffused energy source.

Cal Sensors has been manufacturing and selling high performance PbS and PbSe infrared detectors for over 25 years. Over these years, Cal Sensors has established a reputation for highly controlled manufacturing processes, repeatable performance, and superior customer service. Supporting all stages of development, from early prototyping to high volume production, Cal Sensors is dedicated to helping customers develop market-leading instruments.

Target Applications:

- Gas analysis
- Process control systems
- Flame monitoring and detection

SCD-13HV Specifications

Model #	Part #	Element Size (mm)	Op. Temp. (°C) ²	Wave-length (pk signal, μm)	D* (cm Hz ^{1/2} /W)		Responsivity (λ _{pk} , 650Hz, V/W)	Dark Resistance (@23°C, MΩ/sq)	Time Constant (μs)	Pkg (TO)
					(λ _{pk} , 650Hz, 1Hz)	(500K, 650Hz, 1Hz)				
AP-HV Series with glass window – High value ambient PbS detectors^{1,2}										
AP-14G	40664	1x1	+23	2.4 typ	9.0x10 ¹⁰ typ	7.5x10 ⁸ min 9.4x10 ⁸ typ	7.5 x10 ⁵ typ	0.5 - 2.0 1.0 typ	200 typ 400 max	46
AP-25G	40665	2x2			9.5x10 ¹⁰ typ		3.8x10 ⁵ typ			5
AP-35G	40666	3x3			2.5x10 ⁵ typ		5			
AP-HV Series with lens – High value ambient PbS detectors^{1,2}										
AP-14L	40663	1x1	+23	2.4 typ	1.75x10 ¹¹ typ	7.5x10 ⁸ min 9.4x10 ⁸ typ	1.5x10 ⁶ typ	0.5 - 2.0 1.0 typ	200 typ 400 max	46
AP-25L	40681	2x2			1.3x10 ¹¹ typ		5.0x10 ⁵ typ			5
AP-35L	40667	3x3			3.70x10 ⁵ typ		5			

¹ Specifications apply at a bias voltage of 50 V/mm across a detector and 1Mohm load resistor (in series) or 25V/mm directly across the detector

² Max rated element temperature is 65°C

