L5900 SERIES
INFRARED DETECTORS

The L5900 Series of Infrared Detectors are part of a complete line of tunable diode laser sources and accessories offered by Laser Analytics. The L5900 Series includes InSb and HgCdTe detectors. Standard detectors allow response between 1 and 20 microns. Custom detectors are also available for longer wavelength applications.

FEATURES

- ***Long Term Vacuum***
- ***Interchangeable Detector Element Packages***
- ***Low Noise Preamplifiers***

MODEL DESCRIPTION

The L5900 Series of Infrared Detectors provides IR signal detection throughout the 1 to 20 micron spectral region. The detector elements are mounted in LN_2 dewars. Internal getters allow high vacuum integrity and long term operation before reevacuation is necessary.

Photovoltaic indium antimonide (InSb) elements are available for short wavelength detection. Photoconductive mercury cadmium telluride (HgCdTe) elements are available for detection of wavelengths longer than 4 microns. Each detector element is permanently mounted onto an interchangeable, heat sinking package. Single detector element packages may be upgraded or replaced for future measurements at different wavelengths. Each L5900 dewar comes complete with a matched, low noise preamplifier, funnel and evacuation valve.

Dual detector options are available for the standard dewar or a 1.5 liter dewar (see L5736) for longer hold time.

MODELS

L5911 Infrared Detector ..... InSb element for operation within the 1-5.5 µm region.
L5912 Infrared Detector ..... HgCdTe element for operation within the 4-18 µm region.
L5913 Infrared Detector ..... HgCdTe element for operation within the 18-25 µm region
L5914 Dual Infrared Detector ..... InSb and/or HgCdTe elements

ACCESSORIES

L5930 Detector Mount ..... For mounting the L5911/12/13/14 dewar detector on the L5152 Transfer Optics Assembly
L5915-X Detector Subassembly ..... Additional detector element packages fully interchangeable with existing L5900 dewars
-X (1=InSb,2=HgCdTe)

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Detector	Peak λ (microns)	50% Cut Off (microns)		D* 10KHZ cm/w$\sqrt{HZ}$	Active Area	Peak λ Responsitivity
InSb	4.5	2.5	5.4	$1.0x10^{11}$	1 mm^2	>2 A/W
HgCdTe	4	2.6	4.2	$3.0x10^{11}$	1 mm^2	80,000 V/W
HgCdTe	11	5	12	$3.0x10^{10}$	1 mm^2	3,000 V/W
HgCdTe	16	10	20	$5.0x10^{9}$	1 mm^2	150 V/W
HgCdTe	20	10	25	$4.2x10^{9}$	1 mm^2	100 V/W

Peak wavelengths and parameters listed above are typical. Peak wavelengths may be chosen to optionally match your wavelength requirements.

COMMON SPECIFICATIONS

Operating Temperature	77K
Field of View	60°
Bandwidth	1 MHz (-3 dB)
Preamplifier Power	±(12-15)VDC

DEWARS

Hold Time	10 hours (standard); 36 hours (large)
Window	BaF_2 (InSb, HgCdTe <13µm) KRS-5 (HgCdTe >13µm)
Dimensions	3.13in (7.95cm)Dia x 6.25in (15.9cm)H

Specifications subject to change without notice. Rev 10/97