

# LN2 Cooled HgCdTe Detectors

## Product Data Sheet



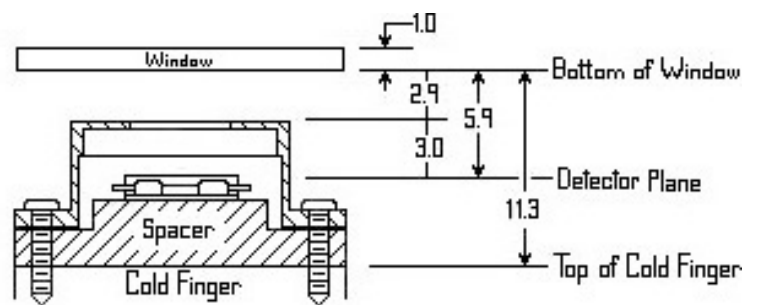
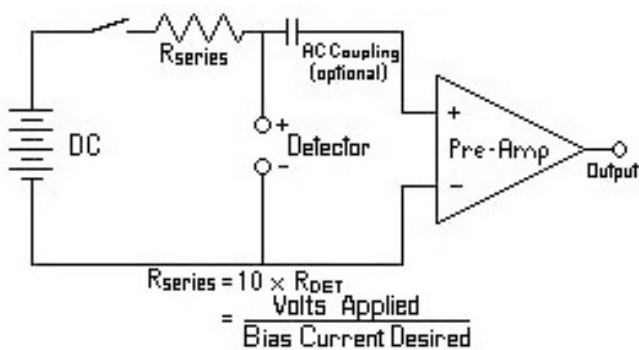
Each detector is optimized for specified wavebands of; 2µm to 5µm, 2µm to 13µm or our FTIR Series with wavebands up to 2µm to 24µm, as shown in the table below.

The FTIR series of HgCdTe detectors are designed to achieve optimum performance in Fourier Transform Infrared spectrometers. The detectors offer the highest sensitivities with cutoffs ranging from 750 to 400 cm-1.

A variety of dewar designs are available, all supplied with wedged windows to eliminate interference effects. In addition to the standard sizes listed in the following table, custom configurations are available on request. Custom packaging, both metal and glass, designed to interface with customer specified cooling systems, is also available.



### Typical operating circuit



Typical Dimensions shown in mm

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## Standard Liquid Nitrogen cooled HgCdTe Detectors

Model Number	Element Size (mm)	FOV=60°						Std. Pkg.	Std. Window
		Wave-length Peak $\lambda_p$ ( $\mu\text{m}$ )	Wavelength Response (20% $\lambda_{co}$ ) ( $\mu\text{m}$ )	$D^*$ ( $\lambda_p, 10000, 1$ ) ( $\text{cmHz}^{1/2}\text{W}^{-1}$ )	Responsivity ( $\mu\text{k}, (\text{V}/\text{W})$ )	Resistance ( $\Omega$ )	Time Constant ( $\mu\text{sec}$ )		
2 $\mu\text{m}$ to 5 $\mu\text{m}$									
MCT-5-N-0.05	0.05 X 0.05	~4.5	$\geq 5.0$	$\geq 1.0\text{E}11$	$\geq 100,000$	50-500	~1.0	MSL-8 MSL-12 OR MDL-8 MDL-12	Sapphire
MCT-5-N-0.10	0.10 X 0.10				$\geq 50,000$				
MCT-5-N-0.25	0.25 X 0.25				$\geq 10,000$				
MCT-5-N-0.50	0.50 X 0.50				$\geq 4,000$				
MCT-5-N-1.00	1.00 X 1.00				$\geq 2,000$				
MCT-5-N-2.00	2.00 X 2.00			$\geq 8.0\text{E}10$	$\geq 1,000$				
2 $\mu\text{m}$ to 13 $\mu\text{m}$									
MCT-13-.025	.025 X .025	~12.0	$\geq 13.0$ ( $750\text{cm}^{-1}$ )	$\geq 5.0\text{E}10$	$\geq 100,000$	20-100	~0.4	MSL-8 MSL-12 OR MDL-8 MDL-12	ZnS ZnSe (2-14mm)
MCT-13-0.05	0.05 X 0.05				$\geq 60,000$				
MCT-13-0.10	0.10 X 0.10				$\geq 30,000$				
MCT-13-0.25	0.25 X 0.25				$\geq 10,000$				
MCT-13-0.50	0.50 X 0.50				$\geq 5,000$				
MCT-13-1.00	1.00 X 1.00				$\geq 2,000$				
MCT-13-2.00	2.00 X 2.00				$\geq 500$				
MCT-13-3.00	3.00 X 3.00	$\geq 200$							
MCT-13-4.00	4.00 X 4.00			$\geq 2.0\text{E}10$	$\geq 100$				
2 $\mu\text{m}$ to 24 $\mu\text{m}$ "FTIR Series"									
FTIR-16-0.10	0.10 X 0.10	~14.0	$\geq 16.6$ ( $600\text{cm}^{-1}$ )	$\geq 4.0\text{E}10$	$\geq 10,000$	20-100	~0.2	MSL-8 MSL-12 OR MDL-8 MDL-12	ZnSe/W
FTIR-16-0.25	0.25 X 0.25				$\geq 3,000$				
FTIR-16-0.50	0.50 X 0.50				$\geq 1,500$				
FTIR-16-1.00	1.00 X 1.00				$\geq 800$				
FTIR-16-2.00	2.00 X 2.00			$\geq 2.0\text{E}10$	$\geq 200$				
FTIR-22-0.25	0.25 X 0.25	~18.0	$\geq 22.2$ ( $450\text{cm}^{-1}$ )	$> 1.0\text{E}10$	$> 700$	20-100	~0.1	Same as FTIR-16	KRS-5/W
FTIR-22-0.50	0.50 X 0.50				$> 350$				
FTIR-22-1.00	1.00 X 1.00				$> 150$				
FTIR-22-0.25	0.25 X 0.25	~18.0	$> 22.2$ ( $450\text{cm}^{-1}$ )	$> 1.0\text{E}10$	$> 700$	20-100	~1.0	Same as FTIR-16	KRS-5/W
FTIR-22-0.50	0.50 X 0.50				$> 350$				
FTIR-22-1.00	1.00 X 1.00				$> 150$				
FTIR-24-0.25	0.25 X 0.25	~18.0	$\geq 24.0$ ( $415\text{cm}^{-1}$ )	$\geq 5.0\text{E}9$	$\geq 200$	20-100	~1.0	Same as FTIR-16	KRS-5/W
FTIR-24-1.00	1.00 X 1.00				$> 50$				
MSL-8 Side Looking Metal Dewar---8 Hour Hold Time					MSL-12 Side Looking Metal Dewar---12 Hour Hold Time				
MDL-8 Down Looking Metal Dewar---8 Hour Hold Time					MDL-12 Down Looking Metal Dewar---12 Hour Hold Time				

# LN2 Cooled HgCdTe Detectors

## Contact Details

### Manufacturer

#### Infrared Associates

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### Distributor

#### Acal BFi

[www.acalbfi.com](http://www.acalbfi.com)

## Disclaimer

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The user is obliged to check the suitability and applicability of the product for their specific intended use on their own responsibility. We accept no liability for any damage arising from the use of the information provided here.

We expressly reserve the right to make changes to the technical data and to correct any errors.