

LN₂ Cooled HgCdTe Detectors

TECHNICAL DATA & INFORMATION

Infrared Associates, Inc. offers high quality **Liquid Nitrogen cooled HgCdTe detectors**. 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} .

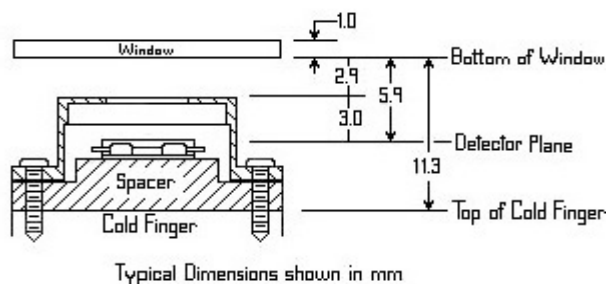
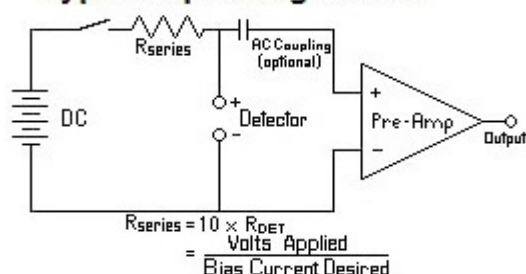
A variety of dewar designs are available, all supplied with wedged windows to eliminate interference effects. In addition to the standard sizes listed in the following [table](#), custom configurations are available on request. Custom packaging, both metal and glass, designed to interface with customer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

Accessories such as Preamplifiers, Valve Operators and Square Base Adapters are also available.

[Contact us](#) to discuss your specific requirements.



Typical Operating Circuit



Standard Liquid Nitrogen cooled HgCdTe Detectors

Model Number	Element Size (mm)	FOV=60°						Std. Pkg.	Std. Window
		Wave-length Peak λ_p (μm)	Wavelength Response (20% λ_{co}) (μm)	D* ($\lambda_p, 10000, 1$) ($cmHz^{1/2}W^{-1}$)	Responsivity (pk, (V/W))	Resistance (Ω)	Time Constant(μsec)		
2 μm to 5 μm									
MCT-5-N-0.05	0.05 X 0.05	~4.5	≥ 5.0	$\geq 1.0E11$	$\geq 100,000$ $\geq 50,000$ $\geq 10,000$ $\geq 4,000$ $\geq 2,000$	50-500	~1.0	MSL-8	Sapphire
MCT-5-N-0.10	0.10 X 0.10							MSL-12	
MCT-5-N-0.25	0.25 X 0.25							OR	
MCT-5-N-0.50	0.50 X 0.50							MDL-8	
MCT-5-N-1.00	1.00 X 1.00							MDL-12	

MCT-5-N-2.00	2.00 X 2.00			≥ 8.0E10	≥1,000						
2 μm to 13 μm											
MCT-13-0.025	.025 X .025	~12.0	≥13.0 (750cm ⁻¹)	≥ 5.0E10	≥100,000 ≥60,000 ≥30,000 ≥10,000	20-100	~0.4	MSL-8 MSL-12 OR MDL-8 MDL-12	ZnS ZnSe (2-14μm)		
MCT-13-0.05	0.05 X 0.05										
MCT-13-0.10	0.10 X 0.10										
MCT-13-0.25	0.25 X 0.25										
MCT-13-0.50	0.50 X 0.50			≥ 4.0E10	≥5,000 ≥2,000						
MCT-13-1.00	1.00 X 1.00										
MCT-13-2.00	2.00 X 2.00									≥ 3.0E10	≥500
MCT-13-4.00	4.00 X 4.00									≥ 2.0E10	≥100
2 μm to 24 μm "FTIR Series"											
FTIR-16-0.10	0.10 X 0.10	~14.0	≥16.6 (600cm ⁻¹)	≥ 4.0E10	≥10,000 ≥3,000 ≥1,500	20-100	~0.2	MSL-8 MSL-12 OR MDL-8 MDL-12	ZnSe/W		
FTIR-16-0.25	0.25 X 0.25										
FTIR-16-0.50	0.50 X 0.50										
FTIR-16-1.00	1.00 X 1.00			≥ 3.0E10	≥1,000						
FTIR-16-2.00	2.00 X 2.00			≥ 2.0E10	≥200						
FTIR-22-0.25	0.25 X 0.25	~18.0	≥22.2 (450cm ⁻¹)	≥ 1.0E10	≥700	20-100	~0.1	Same as FTIR-16	ZnSe/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	≥24.0 (415cm ⁻¹)	≥ 5.0E9	≥200	20-100	~0.1	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						