

Ultra-fast mid-IR detector

➤ MIR QWIP

The fastest mid-IR detector on the market

Bandwidth at least > 26.5 GHz

Based on QWIP technology

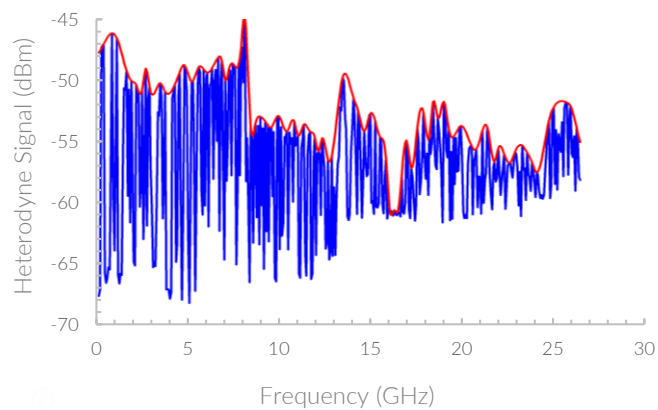
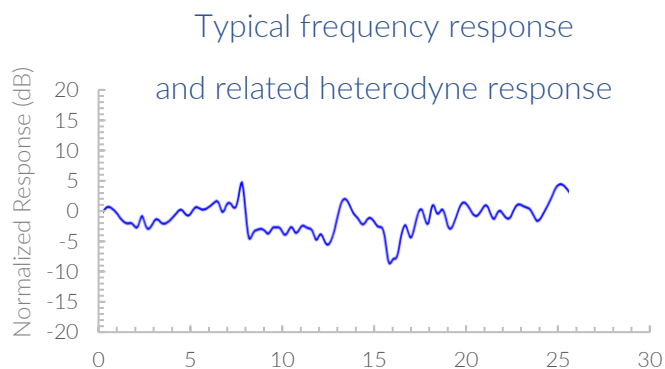
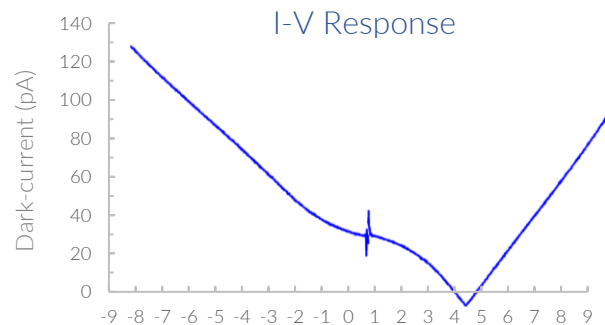
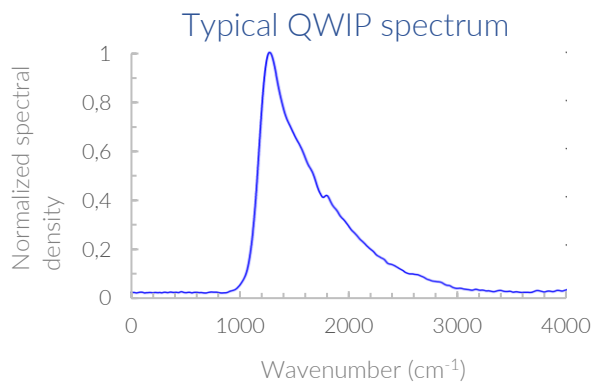
77K operating temperature

Wavelength : 5 μm

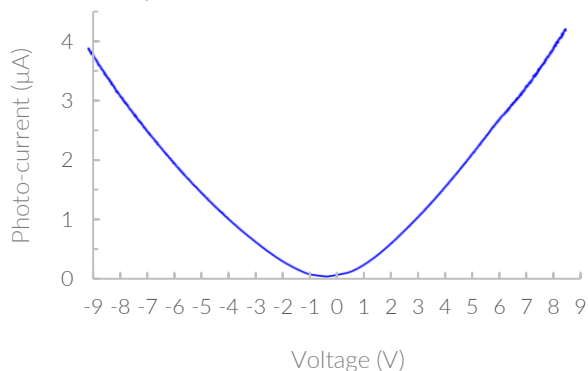


The MIR QWIP is an ultra-fast Mid-IR detector based on state-of-the-art Quantum Well Infrared Photodetector technology. With responses of up to tens of GHz, it is the fastest detector on the market. It is the perfect tool to characterize QCL frequency combs, build heterodyne instruments or develop high bandwidth optical telecom links in the Mid-IR. The QWIP technology was

developed at the Ecole Normale Supérieure in the Laboratoire Pierre Aigrain under supervision of Prof. Carlo Sirtori. The packaging and the devices are optimized for ultra-high-speed operation at cryogenic temperature. Dedicated bias-tees and broadband RF amplifiers were developed and optimized to match the devices top end performance.



I-V Response under illumination (20 mW)



Specifications	MIR QWIP
Optical data	
Optical bandwidth	1935-2295 cm^{-1}
Wavelength	5 μm (2000 cm^{-1})
Responsivity	0.2 mA/W
RF bandwidth	>26.5 GHz
FOV	30°
Optical window	Si AR-lens 1/2" dia.
Electrical data	
Abs. Max	+10/-10 V
Functional data	
Vacuum autonomy	3 months
Operating Temperature	77 K
Cooling autonomy	8 hours
Cooling system	Liquid nitrogen
Dimension and weight	
Dimension	220*120*180 mm
Weight	2.5 Kg
Options	
Bias-tees (34GHz)	✓
RF amplifier DC-30GHz	✓

Features:

- Response up to tens of GHz
- High responsivity
- Dedicated and optimized bias-tees and RF amplifiers
- Plug and play

Applications:

- Characterization of QCL Combs
- Heterodyne instrumentation
- High-speed Mid-IR optical links