Photovoltaic multiple junction detectors PVM

PVM series features room temperature and TE cooled IR multiple junction photovoltaic detectors.

Detector type	Cooling, operating temperature $T[K]$	Optimal wavelength*) $\lambda_{opt}[\mu m]$	Detectivity**) $D^*\left[\frac{cm\cdot\sqrt{Hz}}{W}\right]$ @λ_{peak}	Detectivity**) $D^*\left[\frac{cm\cdot\sqrt{Hz}}{W}\right]$ @λ_{opt}	Current responsivity length product $R_i\cdot L\left[\frac{A\cdot mm}{W}\right]$	Time constant $\tau[ns]$	Resistance $R[\Omega]$	Acceptance angle $\varnothing\left[^\circ\right]_{\frac{1}{2}NA}$	Optical area***) $[mm\times mm]$	Package	Window****)
PVM	uncooled, ~300	8	≥1.2×10⁸	≥6.0×10⁷	≥0.008	≤4	50 to 300	≥90, 0.71	0.1×0.1 0.2×0.2 1×1 2×2 3×3 4×4[1)]	BNC, TO39	no window
		10.6	≥2.0×10⁷	≥1.0×10⁷	≥0.002	≤1.5	20 to 150				
	two-stage TE-cooled (2TE), ~230	8	≥6.0×10⁸	≥3.0×10⁸	≥0.015	≤4	150 to 1000	~70, 0.87		TO8, TO66	wedged ZnSe AR coated
		10.6	≥2.0×10⁸	≥1.0×10⁸	≥0.006	≤3	90 to 350				

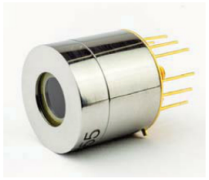
*) *Other optimal wavelengths available upon request.*
**) *Data sheet states minimum guaranteed D* values for each detector model. Higher performance detectors can be provided upon request.*
***) *Other optical area available upon request.*
****) *Other windows available upon request.*
1) *Optical area available only for uncooled detectors.*

Photovoltaic detectors optically immersed PVMI

PVMI series features room temperature and TE cooled IR multiple junction photovoltaic detectors, optically immersed (achieved by using high refractive index micro lenses) in order to improve performance of the devices, different acceptance angle and saturation level. Both PVM and PVMI devices are optimized for the maximum performance at opt. Highest performance and stability are achieved by application of variable gap HgCdTe semiconductor, optimized doping and sophisticated surface processing.

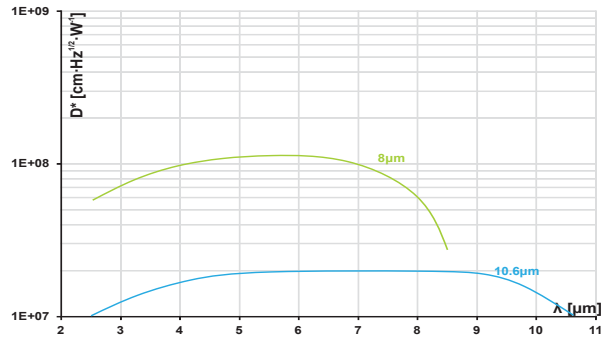
Detector type	Cooling, operating temperature $T[K]$	Optimal wavelength*) $\lambda_{opt}[\mu m]$	Detectivity**) $D^*\left[\frac{cm\cdot\sqrt{Hz}}{W}\right]$ @λ_{peak}	Detectivity**) $D^*\left[\frac{cm\cdot\sqrt{Hz}}{W}\right]$ @ λ_{opt}	Current responsivity length product $R_i\cdot L\left[\frac{A\cdot mm}{W}\right]$	Time constant $\tau[ns]$	Resistance $R[\Omega]$	Acceptance angle $\varnothing\left[^\circ\right]_{\frac{1}{2}NA}$	Optical area***) $[mm\times mm]$	Package	Window****)
PVMI	uncooled, ~300	8	≥6.0×10⁸	≥3.0×10⁸	≥0.04	≤4	50 to 300	~36, 1.62	1×1 2×2	BNC, TO39	no window
		10.6	≥2.0×10⁸	≥1.0×10⁸	≥0.01	≤1.5	20 to 150				
	two-stage TE-cooled (2TE), ~230	8	≥2.5×10⁹	≥2.0×10⁹	≥0.10	≤4	150 to 1000			TO8, TO66	wedged ZnSe AR coated
		10.6	≥1.5×10⁹	≥1.0×10⁹	≥0.05	≤3	90 to 350				
	three-stage TE-cooled (3TE), ~210	8	≥4.0×10⁹	≥3.0×10⁹	≥0.15	≤4	200 to 1500				
		10.6	≥2.0×10⁹	≥1.5×10⁹	≥0.10	≤3	100 to 400				
	four-stage TE-cooled (4TE), ~195	8	≥8.0×10⁹	≥6.0×10⁹	≥0.20	≤4	500 to 2000				
		10.6	≥2.5×10⁹	≥2.0×10⁹	≥0.15	≤3	120 to 500				

*) *Other optimal wavelengths available upon request.*
**) *Data sheet states minimum guaranteed D* values for each detector model. Higher performance detectors can be provided upon request.*
***) *Other optical area available upon request.*
****) *Other windows available upon request.*

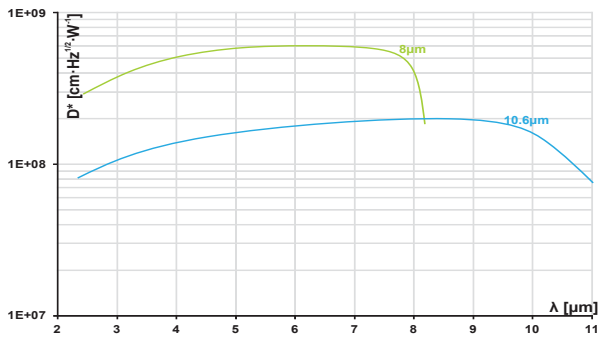



Spectral characteristics*)

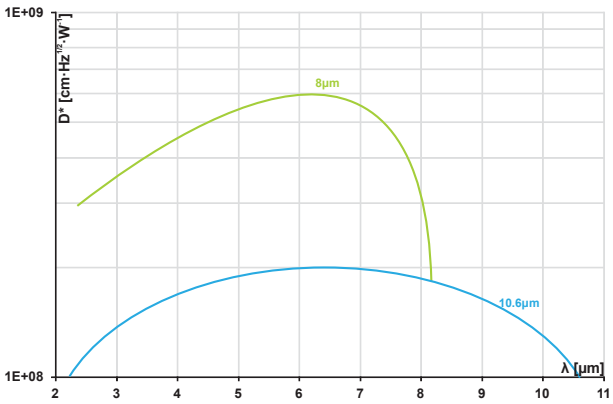
PVM



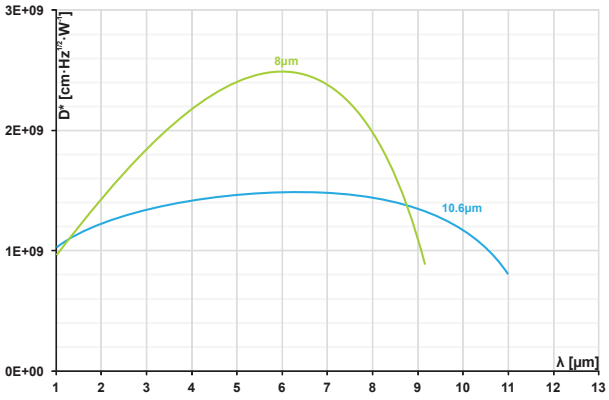
PVM-2TE



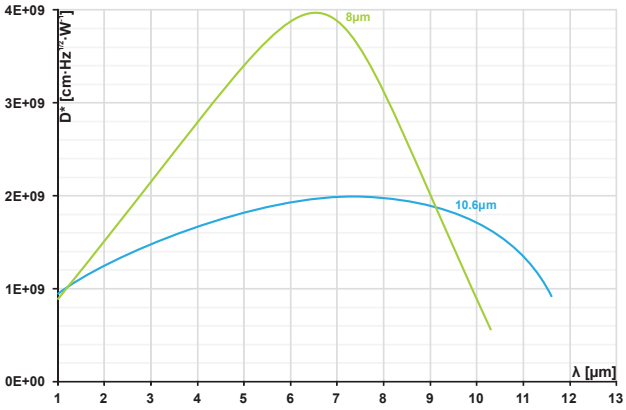
PVMI



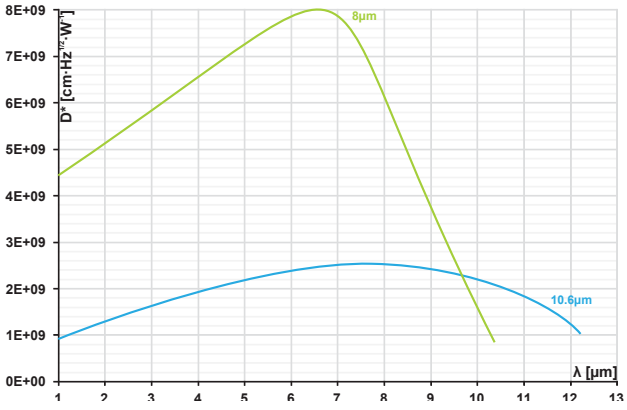
PVMI-2TE



PVMI-3TE



PVMI-4TE



)Example of D vs wavelength λ for HgCdTe detectors.
Spectral characteristics of individual detectors may vary from those shown on the chart.