

1280BPCam

1280 x 1024 x 12 μm
Extended SWIR Response T2SL Camera
for Beam Profiling

Model # 1280BP-12-A2-T2SL-2.05
Part No: 7000-0011

The Princeton Infrared Technologies' BPCam camera supports extended SWIR wavelength response with TEC cooled operation!



This InGaAs/GaAsSb type-II super lattice (T2SL) detector camera enables high resolution 1280x1024 SWIR imaging at frame rates at 90 frames per second (fps) at full resolution. The camera's small 12 μm detector array pitch combined with the extended wavelength response of its T2SL material enables impressive imaging from visible wavelengths out to 2050 nm.

The advanced focal plane array (PIRT1280A2-12-T2SL-2.0) integrated in the camera generates 14-bit pixel data with a maximum 1.8 Me- full well. This combined with the extended wavelength response of the T2SL detector material and a 3-stage TEC enable imaging from 0.4 out to 2.05 μm with high sensitivity. The camera implements a medium Camera Link™ interface to reliably transfer the full 14-bit pixel data at the camera's maximum 90 fps and full 1280x1024 resolution. Princeton Infrared Technologies, Inc. offers application software to operate and collect data from the camera with select frame grabber cards, and can be integrated through custom software development with most frame grabbers.

Features

- 1280x1024 resolution
- Small 12 μm pitch
- Flexible temperature set point from 0°C to -30°C
- Snapshot exposure
- Integrate while read or Integrate then read modes
- >90 fps at 1280x1024
- Selectable trigger modes
- 0.4-2.05 μm responsivity
- >20% QE for 1.9 μm
- 14-bit ADCs on FPA
- < 275e- read noise
- Integration times from 50 μs to >16 ms
- High Dynamic Range >1000:1
- F- or C- lens mounts
- User selectable ROI

Parameter	Unit	Min	Typical	Max	Comments
Resolution	Resolution		1280x1024		
Pixel Pitch	μm		12		
Full Well	Me-	1.8	2		
Frame Rate					
1280x1024	Frames/second	90			
640x512		189			
Data output	Bits	14			medium Camera Link™*
Fill Factor	%	99	100		
Responsivity Range	μm	0.4		2.05	at -25°C
Integration time					max integration time to fill 1/2 full well at max dark signal
At -25°C	s	50e-6	0.016		
Dark Signal Rate	e-/s		70e6		at -25°C
Read Noise	e- (RMS)		250	275	at -25°C
D*	cm-√Hz/W		4.5e11		at -25°C, with 1.5 μm light at 16ms integration time
Inoperable Pixels	%			0.75	at -25°C
Non-Linearity	%			1	across 98% of dynamic range
Size	mm		77 x 77 x 138		excluding lens
Weight	g	1350			excluding lens
Power	W	< 30			at -25°C
Ambient operating temperature	°C	0		30	

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* Recommend use of Camera Link™ cables shorter than 5 m for reliable camera operation.

Quantum Efficiency at -25°C

