

ACQ316

GEIGER-MODE LIDAR CAMERA



KEY FEATURES

- Single Photon Sensitivity
- 32 x 32 Geiger-mode Focal Plane Array
- 1.06 - 1.5 μm Wavelength Operation
- User-defined Range Gate
- Non-Uniform Bias (NUB) Correction
- Camera Link

OPTIONAL

- Portable Computer with Frame-Grabber

FOCAL PLANE ARRAY FEATURES

- 32 x 32 pixels on 100 μm pitch
- 32 x 32 GaP microlens array
- 32 x 32 mesa-etched array
- InGaAs/InP Geiger - mode APDs for 1.5 μm wavelength
- InGaAs/InP Geiger - mode APDs for 1.06 μm wavelength
- Read-out IC supporting: 20 kHz frame rate, 2 μs range gate and 0.5 ns timing bins
- Thermoelectric cooled Pin-grid array (PGA) hermetic package

Contact: Sales@acqubit.com | www.acqubit.com | 661.753.3592 | 26027 Huntington Lane, Unit B Valencia, CA 91355

NOTE - This camera product and associated technical data are subject to the International Traffic in Arms Regulations. Export, re-export or transfer to a foreign person, whether in the United States or abroad, without an export authorization from the U.S. Department of State, is prohibited.

The information contained on this sheet is for reference only. Actual specifications for delivered products may vary.

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ACQBIT

A 3D-SensIR, Inc. Company

1.06 MICRON CAMERA SPECIFICATION

Parameter	Units	Minimum	Typical	Maximum	Conditions
Wavelength Range	nm	920		1100	
Array Format			32 x 32		
Pixel Pitch	µm		100		
Breakdown voltage range	V	60	65	70	SCA @ 243K (-30C)
Pixel Operability	%	95	99	100	
Dark Count Rate (DCR)	kHz	3	5	10	250K at 4V overbias
Photon Detection Efficiency (PDE)	%	25	30	35	at 1.06 um with Microlens
PDE Standard Deviation	%		7	20	Standard deviation vs mean w/ NUB
Cross-talk probability	ppm			300	pixel-to-pixel probability
timing dynamic range	bit		14		
Frame Rate	kHz	0.1	n/a	20	
Bin Size	ps	500	500	1000	
Timing Jitter	ps	400	450	500	System timing including laser pulse width and jitter
Pixel voltage tunability range	V	-0.75	0	0.75	flat NUB = 0V
Gate duration	us	0.5	4	6.7	500ps bin (x2@1ns)
	mtr	75	600	1000	RANGE: 1ns = 15cm
Input Voltage	V	20	28	32	
Power	W	20	30	30	
Weight	lbs		2.5		
Envelope Dimensions	In				4.5 X 4.5 X 4.5

1.55 MICRON CAMERA SPECIFICATION

Parameter	Units	Minimum	Typical	Maximum	Conditions
Wavelength Range	nm	920		1600	
Array Format			32 x 32		
Pixel Pitch	µm		100		
Breakdown voltage range	V	60	65	70	SCA @ 243K (-30C)
Pixel Operability	%	95	99	100	
Dark Count Rate (DCR)	kHz	25	40	60	250K at 4V overbias
Photon Detection Efficiency (PDE)	%	20	30	35	at 1.55 um with Microlens
PDE Standard Deviation	%		7	20	Standard deviation vs mean w/ NUB
Cross-talk probability	ppm			300	pixel-to-pixel probability
timing dynamic range	bit		14		
Frame Rate	kHz	0.1	n/a	20	
Bin Size	ps	500	500	1000	
Timing Jitter	ps	400	450	500	System timing including laser pulse width and jitter
Pixel voltage tunability range	V	-0.75	0	0.75	flat NUB = 0V
Gate duration	us	0.5	4	6.7	500ps bin (x2@1ns)
	mtr	75	600	1000	RANGE: 1ns = 15cm
Input Voltage	V	20	28	32	
Power	W	20	30	30	
Weight	lbs		2.5		
Envelope Dimensions	In				4.5 X 4.5 X 4.5

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