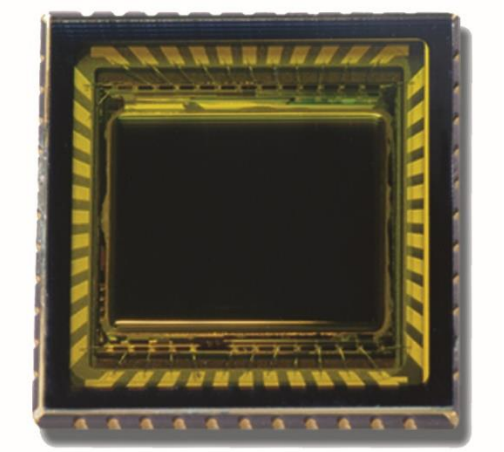
VIS to Near-IR (0.6 - 1.7 µm)
320 x 256 InGaAs Focal Plane Array



FEATURES

- 320 x 256 Array Format
- 0.6 µm -1.7 µm Spectral Range
- Light Weight 44CLCC Package
- Typical Pixel Operability > 99.5 %
- Quantum Efficiency > 70 % (in SWIR)
- Room Temperature Operation
- Built-in Temperature Sensor
- Snapshot ITR/IWR and IMRO Readout Modes[1]
- 1, 2 or 4 Outputs with up to 10 MHz Pixel Rate
- Windowing Capability

APPLICATIONS

- Visible to Near-Infrared Imaging
- Covert Surveillance
- Semiconductor / Solar Panel Inspection
- Medical Science and Biology
- Fiberoptic Assembly and Testing
- See through Fog / Smoke
- Ice / Slush / Moisture Mapping
- Industrial Thermal Imaging
- Astronomy and Scientific
- Sorting and Recycling

[1] ITR= Integrate Then Read - IWR = Integrate While Read - IMRO = (Continuous) Integration (with) Multiple Read Out

ANDANTA GmbH • Ilzweg 7+9 • 82140 Olching/Germany • Internet: www.andanta.de
Tel: +49.8142.41058-0 • Fax: +49.8142.41058-29 • e-mail: epost@andanta.de

GENERAL DESCRIPTIONS

PARAMETER	UNIT	VALUE
Sensor Technology	---	Planar InGaAs PIN
Spectral Range	µm	0.6 - 1.7
Actual Pixel Array	---	320 x 256
Effective Pixel Array	---	318 x 254
Pixel Pitch	µm	30
Image Size	mm	9.6 x 7.68
Package Type	---	44-pin Ceramic LCC
Package Size L x W x T	mm	16.51 x 16.51 x 2.46
Weight	g	1.6

SPECIFICATIONS (T_{AMB} = 22 °C)

PARAMETER		UNIT	TYPICAL VALUE	CONDITIONS
Dark Current[2,3]		fA	≤ 220	Photopixel Biased @ -1.0 V
Quantum Efficiency * Fill Factor (QEFF) [2,3]		%	≥ 70	λ = 1.0 µm -1.5 µm
Response Nonuniformity[2,3]		%	≤ 10	At 50 % Full Well
Response Nonlinearity[2,3]		%	≤ 2	15 % - 85 % Well Occupation Range
Charge Capacity	@High Gain, 13.3 µV/e^-	Me^-	0.17	ROIC Specifications
	@Low Gain, 0.7 µV/e^-		3.50	
Readout Noise		e^-	≤ 122	High Gain, Integration Time = 6 ms
Output Swing		V	2.8	
Minimum Integration Period[3]		µs	5.5	Assuming 5 MHz Master Clock
Pixel Operability[2,3]		%	≥ 99.5	Percentage of Pixels with QEFF Deviation within ± 20 %* (QEFF Mean)

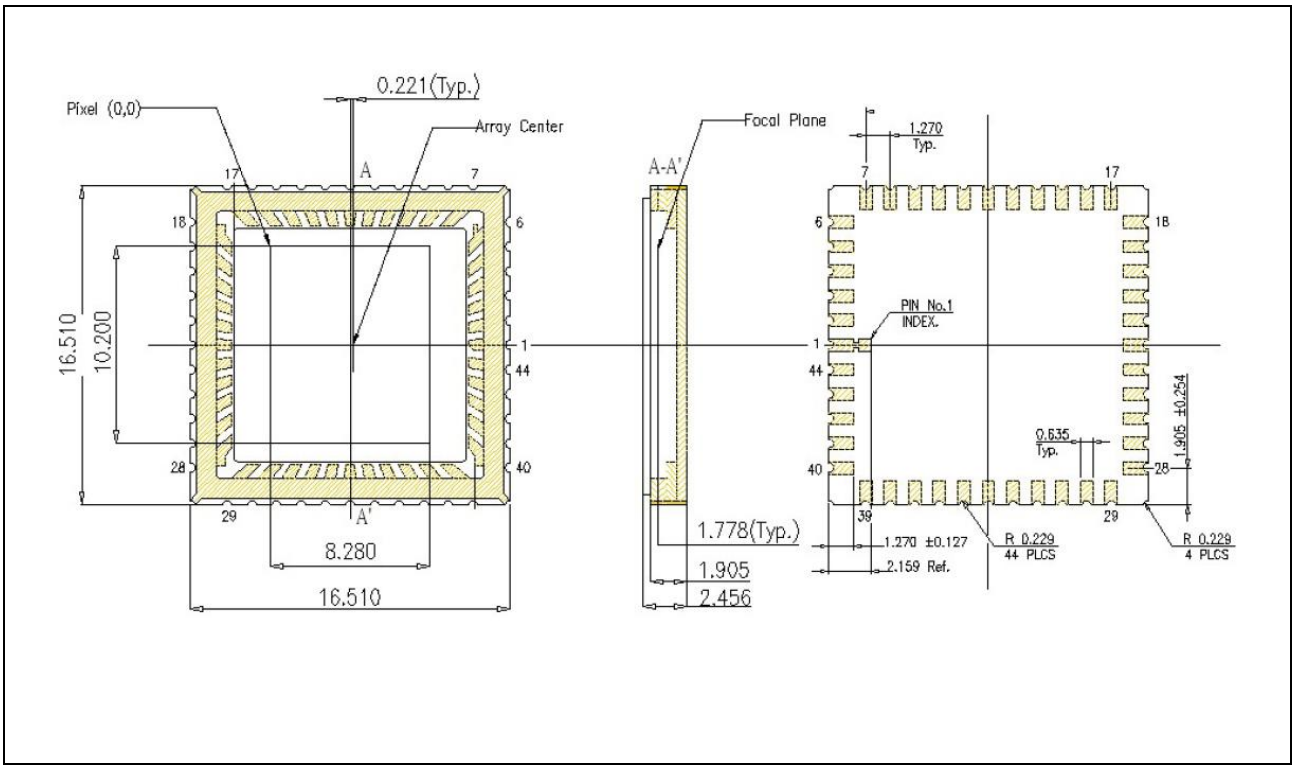
2. These items are defined for central effective pixel array (318x254). Their values correspond to default operation conditions.
3. Please contact us for further information.

ABSOLUTE MAXIMUM RATINGS

PARAMETER	*UNIT*	*MIN.*	*MAX.*
Operating Temperature[4]	°C	-40	+70
Storage Temperature[4]	°C	-40	+70
Power Consumption	mW	---	175

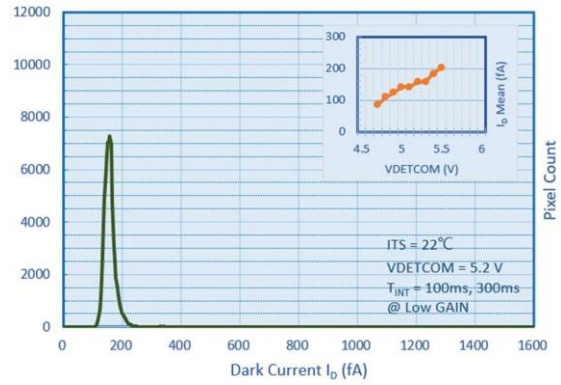
4. In non-condensing environment.

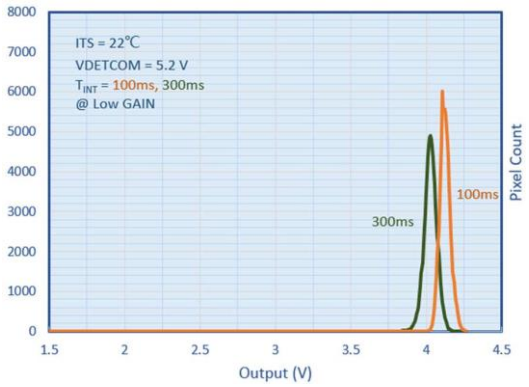
PACKAGE OUTLINE (Unit: mm)



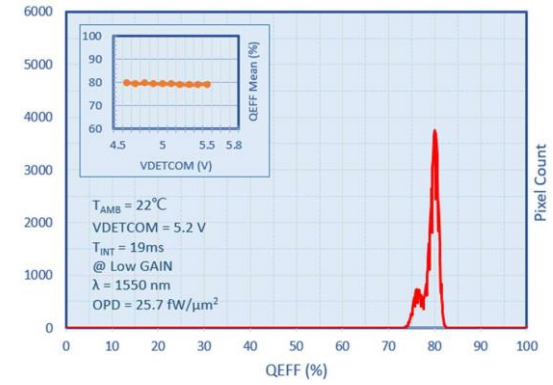
EXAMPLE CURVES

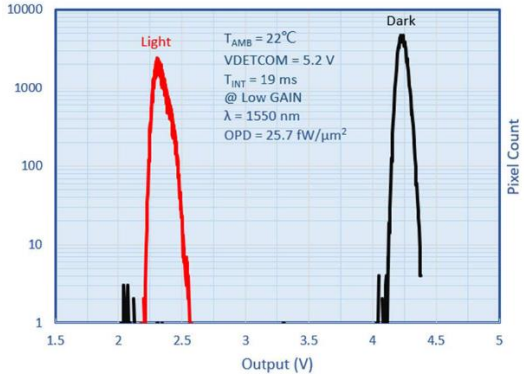
Histograms of Dark Condition



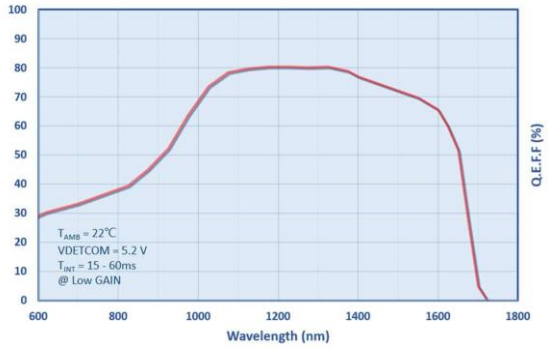


Histograms of Illumination Condition





QEFF Spectrum



Output Linearity