VIS to Near-IR (0.6 – 1.7µm) 320x256 InGaAs Focal Plane Array

FEARURES

- 320x256 Array Format
- 0.6µm – 1.7µm Spectral Range
- Light Weight 44CLCC Package
- Typical Pixel Operability > 99.5%
- Quantum Efficiency > 70%
- Room Temperature Operation
- Built-in Temperature Sensor
- Snapshot ITR/IWR and IMRO Readout Modes
- 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 Recycling

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	---	44ipin Ceramic LCC
Package Size L x W x T	inch	0.65 x 0.65 x 0.0967
Weight	g	1.6

For further information, please visit our website at www.clpt.com.tw or contact us via sales@clpt.com.tw

SPECIFICATIONS (T_{AMB} = 22℃)

Parameter		Unit	Typical Value	Conditions
[1.2]Dark Current		fA	≤ 220	Photo pixel Biased @ -1.0 V
[1.2]Quantum Efficiency * Fill Factor (QEFF)		%	≥ 70	λ = 1.0 μm – 1.5 μm
[1.2]Response Nonuniformity		%	≤ 10	At 50% Full Well
[1.2]Response Nonlinearity		%	≤ 2	15% - 85% Well Occupation Range
[2]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	
[2]Minimum Integration Period		μs	5.5	Assuming 5MHz Master Clock
[1.2]Pixel Operability		%	≥ 99.5	Percentage of Pixels with QEFF Deviation within ± 20%*(QEFF Mean)

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

ABSOLUTE MXIMUM RATINGS

Parameter	Unit	Min.	Max.
[3]Operating Temperature	℃	-40	+70
[3]Storage Temperature	℃	-40	+70
Power Consumption	mW		175

3. In non-condensing environment

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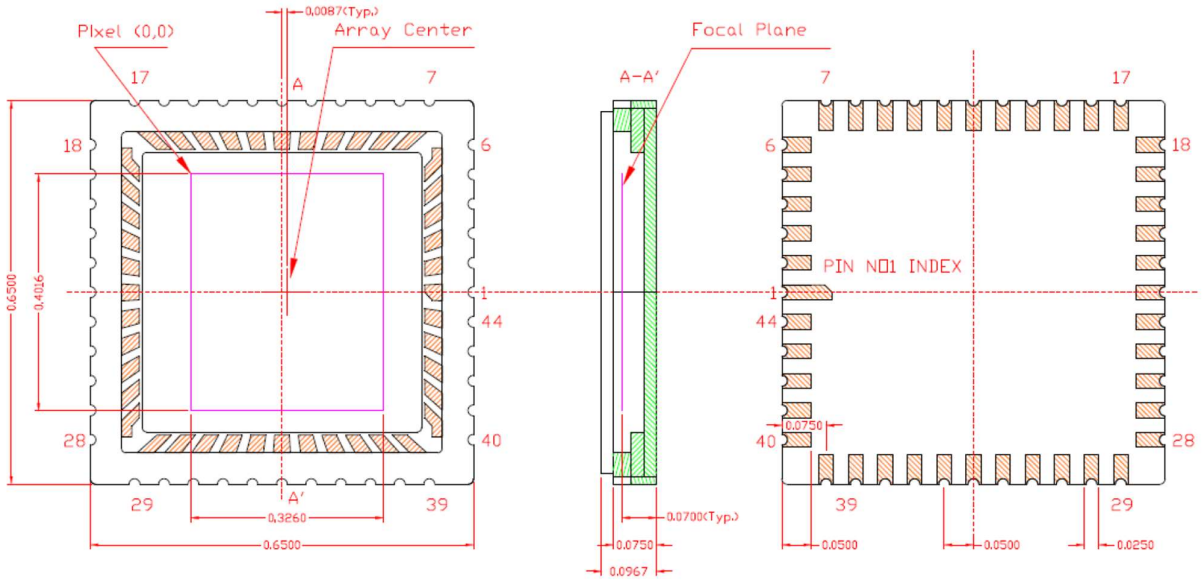
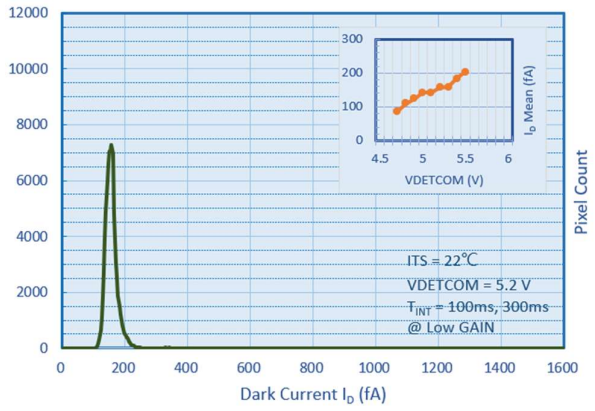
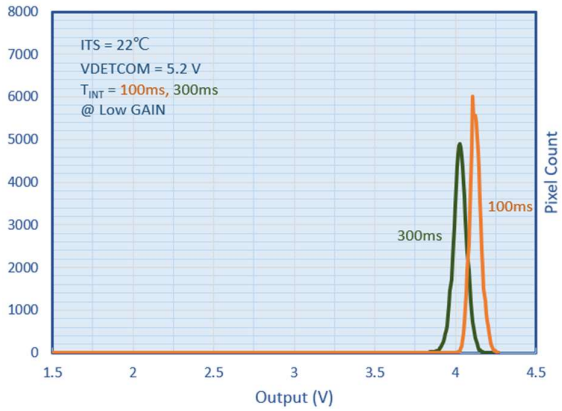
PACKAGE OUTLINE (Unit: inch)



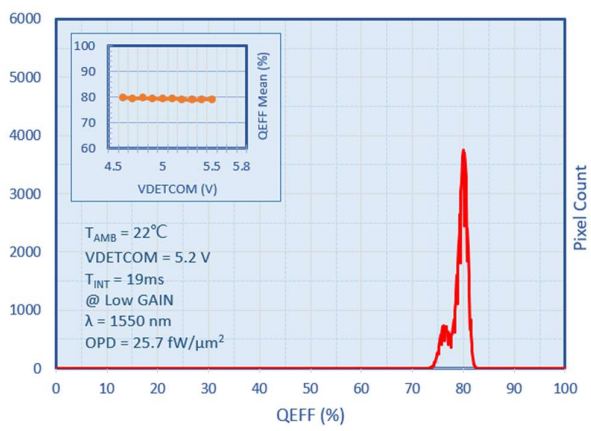
EXAMPLE CURVES

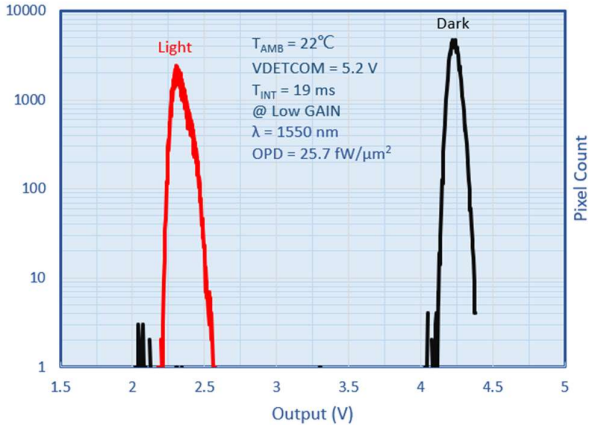
Histograms of Dark Condition



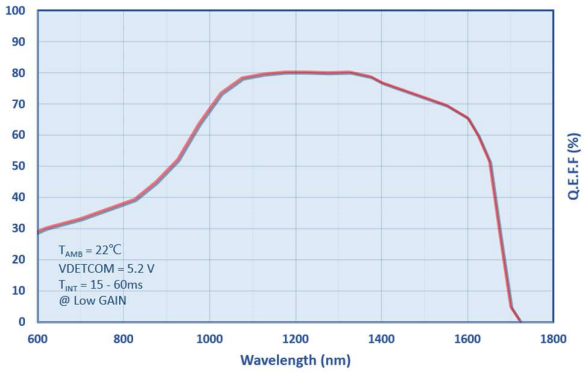


Histograms of Illumination Condition

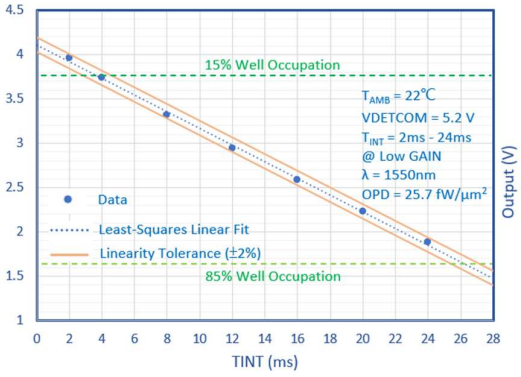




QEFF Spectrum



Output Linearity



Note: The example curves are subject to change without notice.