InGaAs Direct SWIR VIEWer (DIRVIEW)

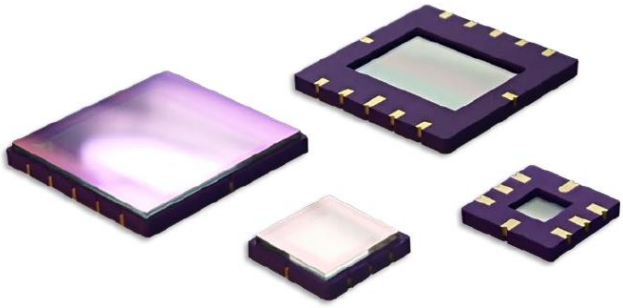
DIV0320P10G-17-C: 3.2 mm x 3.2 mm Effective Viewing Area
DIV1280P10G-17-C: 12.8 mm x 9.6 mm Effective Viewing Area

FEATURES

- SWIR-to-Green Optical Upconversion
- 0.9 µm - 1.7 µm SWIR Detection Range
- Eye-Sensitive Green Emitter Array
- Macroscopic Area Operability ≥ 99%
- Max. Conversion Efficiency ≥ 1 % W/W
- Minimum Detectable Power Densities ≤ 100 µW/cm^2
- High-Speed Image Response
- Ceramic LCC Package
- Low Voltage (3V) Operation

APPLICATIONS

- Fiberoptic Testing
- Imaging Powermeter
- Laser Beam Detection & Analysis
- Microscopy
- See-through Silicon
- Fire Detection
- High Speed SWIR Image



GENERAL DESCRIPTIONS

PARAMETER	UNIT	DIV0320P10G-17-C	DIV1280P10G-17-C
		VALUE	
Sensor Technology	--	Planar InGaAs PIN (0.9 – 1.7 µm) Array	
Emitter Technology	--	InGaN Green LED Array	
Pixel Pitch	µm	10	
Image Size	mm	3.2 x 3.2	12.8 x 9.6
Image Diagonal Length	mm	4.5	16
Package Type	--	Ceramic 8LCC	Ceramic 12LCC
Package Size L x W x T	mm	8 x 8 x 1.15	18 x 18 x 1.45
Weight	g	0.32	1.68

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SPECIFICATIONS (T_{AMB} = 23°C, VPOS = 3V)

MODEL NO.		DIV0320P10G-17-C			DIV1280P10G-17-C		
SPECTRAL RANGE (µm)		0.9 – 1.7					
PARAMETER	UNIT	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
Dark Current	µA	---	0.01	0.5	---	0.1	1
Capacitance @ 1 MHz	nF	---	2.0	3.0	---	25	35
Responsivity @ 1.55 µm [1]	A/W	0.85	0.95	---	0.85	0.95	---
Quantum Efficiency, QE @ 1.55 µm [1]	%	68	76	---	68	76	---
Saturation Power @ 1.55 µm, -0.2 dB [2]	mW	0.2	0.5	---	0.2	0.5	---
Max. Conversion Efficiency, CE @ 0.53 µm / 1.55 µm [3]	W/W	0.9%	1.5%	---	0.9%	1.5%	---
	ph/ph	0.3%	0.5%	---	0.3%	0.5%	---
Macroscopic Area Operability @ 0.53 µm / 1.55 µm [4]	%	99	99.5	---	99	99.5	---

[1] Data taken with optical input lower than saturation level.

[2] Data measured at the aperture centre with an $1/e^2$ beam diameter of ~1 mm.

[3] CE is input optical power dependent.

[4] The emission of DIRVIEW, which is illuminated by an uniform light source, is evaluated by a CMOS image sensor (CIS). The Macroscopic Area Operability is defined as the percentage of pixels of CIS with pixel value deviation within ±15 % of the mean value in the area of interest. This operability is the aeral yield analogous to visual perception.

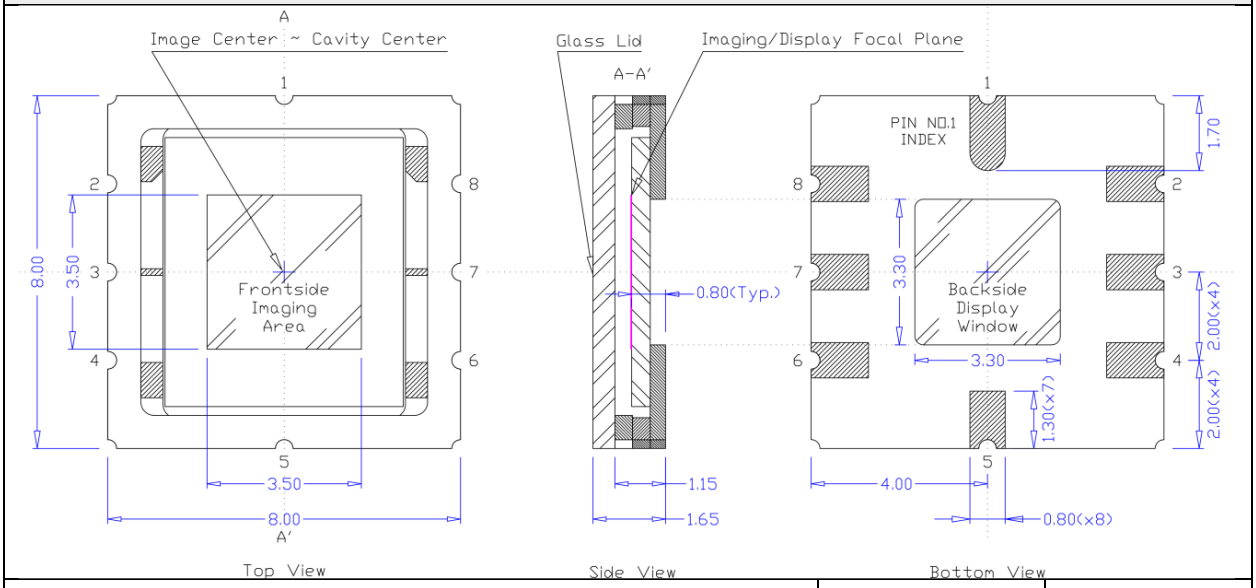
ABSOLUTE MAXIMUM RATINGS

MODEL NO.		DIV0320P10G-17-C		DIV1280P10G-17-C	
PARAMETER	UNIT	MIN.	MAX.	MIN.	MAX.
VPOS	V	+2	+5.5	+2	+5.5
IPOS	mA	---	5	---	5
Operating Temperature	°C	-20	+70	-20	+70
Storage Temperature	°C	-20	+70	-20	+70
Manual Soldering Condition [5]		320 °C / 3 sec max. for each pad			

[5] The device contains indium-based alloy. Prolonged heating at elevated temperatures may result in deterioration of the device performance.

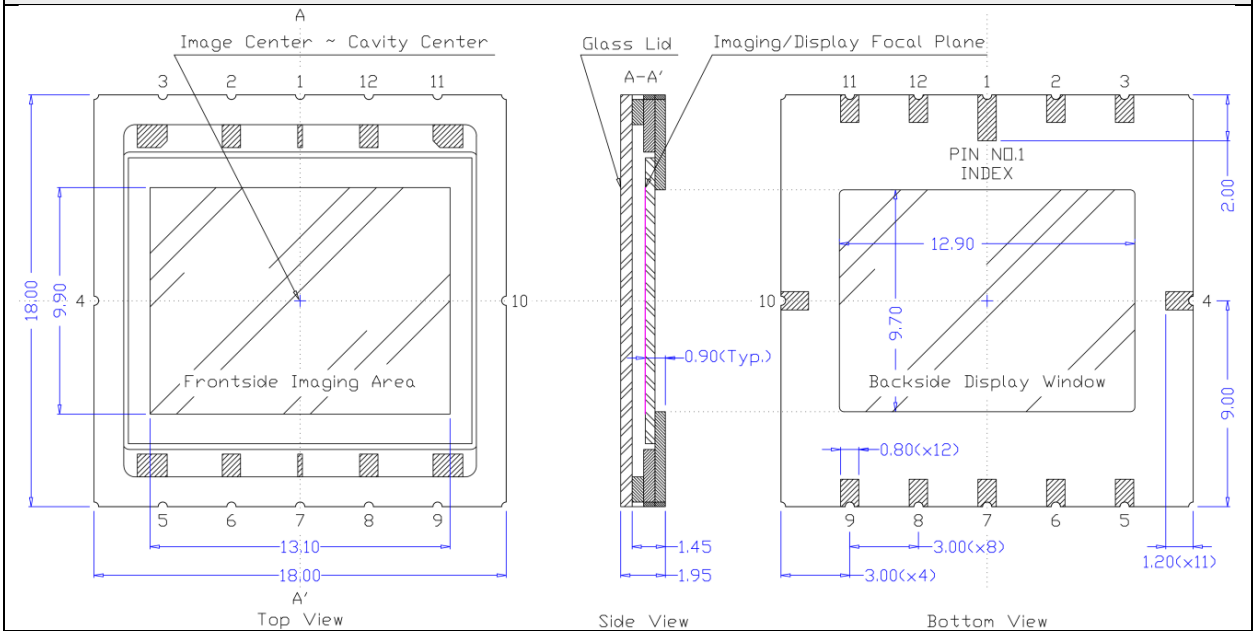
PACKAGE OUTLINE (Unit: mm)

DIV0320P10G-17-C



PIN2, PIN8	VPOS	3 V Typ.
PIN4, PIN6	VNEG	0 V
PIN1, PIN3, PIN5, PIN7	N.C.	

DIV1280P10G-17-C



PIN3, PIN11	VPOS	3 V Typ.
PIN5, PIN9	VNEG	0 V
PIN1, PIN2, PIN4, PIN6, PIN7, PIN8, PIN10, PIN12	N.C.	

EXAMPLE CURVES (T_{AMB} = 23°C)