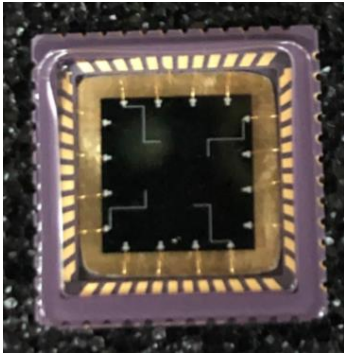


Silicon PIN photodiode

Array (16 elements)



Description

OSA1-16 multichannel array photodetector consist of 16 single Element photodiode laid adjacent to each other forming two Dimensional sensing area on a common cathode substrate.

This array can perform simultaneous measurement of a moving Beams of many wavelengths. It feature low electrical cross talk And super high uniformity between adjacent elements.

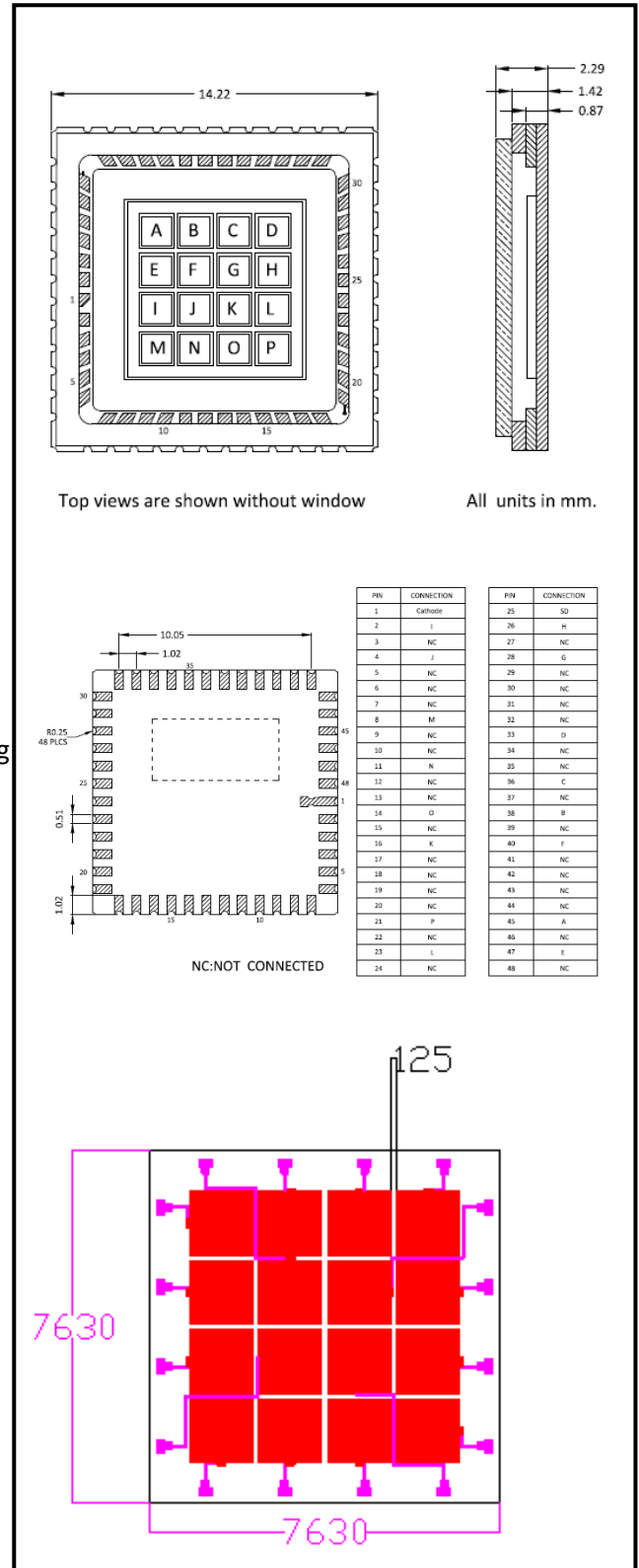
It is optimized for IR wavelength.

Features

- * Low-capacitance high sensitivity
- * 400-1100nm response
- * 16 pixels
- * Assembled in LCC48-package with plane glass window
- * Custom devices available upon request

Applications

- * Laser range finder, Lidar
- * High speed optical communications
- * Laser scanner, spectral measurement



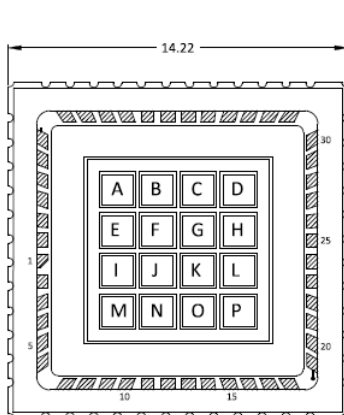
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Absolute Maximum Ratings (Ta=25 °C)

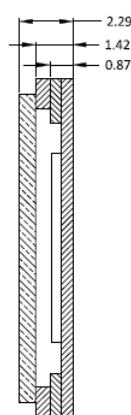


Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Number of effective pixels			16			pixel
Active area (each pixel)			1000*1000			um
Chip size (total chip)			7630*7630			um
Pixel pitch		Between elements	125			um
Spectral range			400		1100	μA
Photo sensitivity	S _R	940nm		0.60		A/W
		650nm	0.35	0.40		
Dark current	I _D	V _R =10mV		0.016		nA
		V _R =10V		0.109	2	
Rise time	t _R	V _R =10V;λ=850nm;R _L =50Ω			5	ns
Tempcoeffi-cient of I _D	T _{CD}			0.18		times/°C
Reverse breakdown voltage	V _{(BR)R}	I _R =10μA Ev=0lx			50	V
Junction Capacitance	C _J	V _R =0V f=1MHz		32		pF
		V _R =10V f=1MHz		94		
CrossTalk Channel-to-Channel		400-850nm, Adjacent Channel		0.1	0.5	%
		850-1100nm, Adjacent Channels		1	5	
Uniformity of each Element	%		0.8		2	%
Shunt resistance	R _{sh}	V _R =10mV		0.625		GΩ
Rsh Temperature Coefficient	TC Rsh			0.18		%/°C
Noise Equivalent Power	NEP	V _R =10V λ=940nm		3×10 ⁻¹⁴		W/Hz ^{1/2}
Specific Detectivity	D*	V _R =10V λ=940nm		5.8×10 ¹³		cm(Hz/W) ^{1/2}

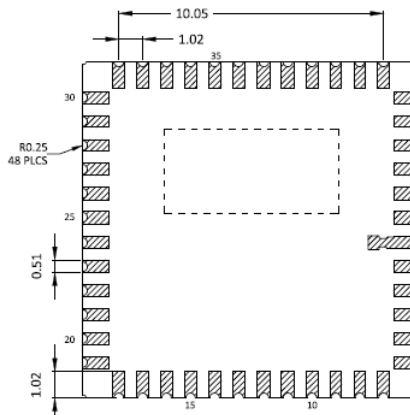
PIN LEGS:



Top views are shown without window



All units in mm.

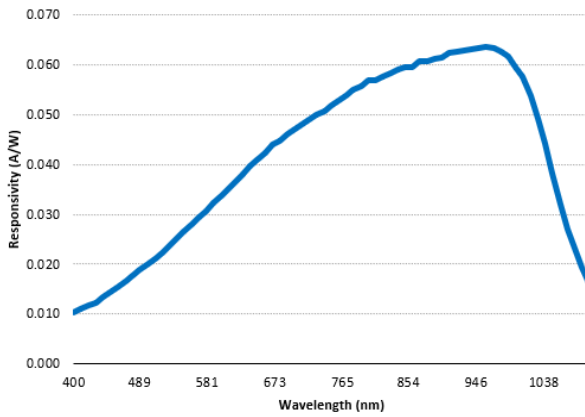


NC:NOT CONNECTED

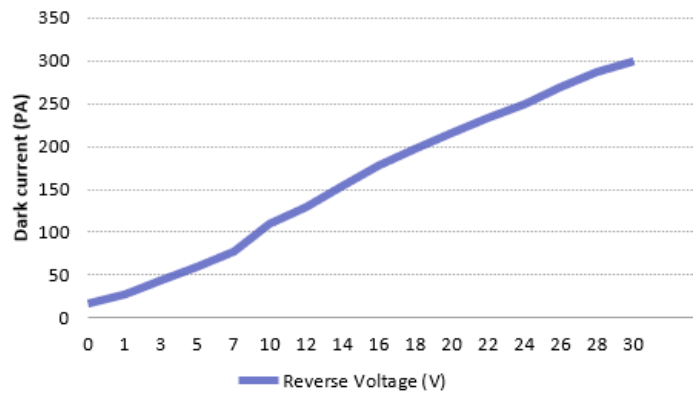
PIN	CONNECTION
1	Cathode
2	I
3	NC
4	J
5	NC
6	NC
7	NC
8	M
9	NC
10	NC
11	N
12	NC
13	NC
14	O
15	NC
16	K
17	NC
18	NC
19	NC
20	NC
21	P
22	NC
23	L
24	NC

PIN	CONNECTION
25	SD
26	H
27	NC
28	G
29	NC
30	NC
31	NC
32	NC
33	D
34	NC
35	NC
36	C
37	NC
38	B
39	NC
40	F
41	NC
42	NC
43	NC
44	NC
45	A
46	NC
47	E
48	NC

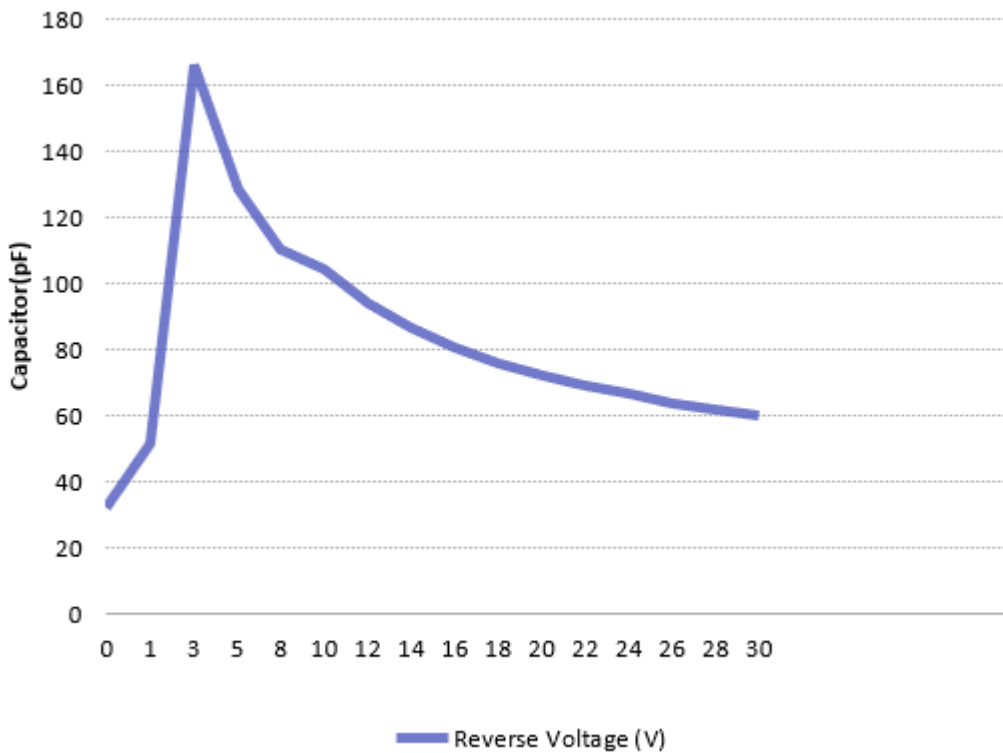
■ Spectral response (M=10)



■ Dark current VS.Ubias



■ Reverse Voltage vs. Capacitor



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