

General Description

Optical device for X-ray imaging.

It consists of a monolithic 16 silicon PIN photodiode array chip covered with specific scintillator for X-ray photon conversion into optical photons.

The active area of each photodiode is $2.8 \times 1.4 \text{ mm}^2$.

The high optical responsivity is due to the antireflective coating deposited on the photodiode active areas.

The low dark current is good for high signal-to-noise ratio applications.

The package type is ceramic DIL.



Applications

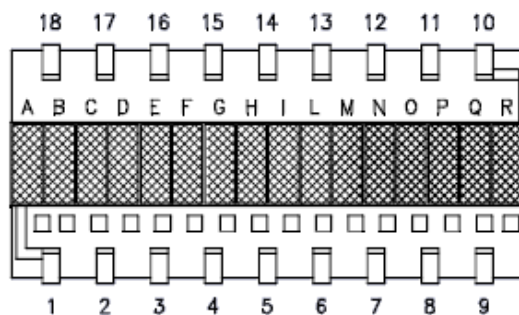
X-ray Imaging

X-ray General-Purpose Detection

Features

- Covered with Scintillator for X-rays
- Optical Pitch = 1.5 mm
- Available 32 Array Chip (pitch = 0.75 mm)
- Ceramic DIL Package

Pin Functions



No.	Name	Function
1	CC	Common Cathode
2	BA	PIN Diode B Anode
3	DA	PIN Diode D Anode
4	FA	PIN Diode F Anode
5	HA	PIN Diode H Anode
6	LA	PIN Diode L Anode
7	NA	PIN Diode N Anode
8	PA	PIN Diode P Anode
9	RA	PIN Diode R Anode
10	CC	Common Cathode
11	QA	PIN Diode Q Anode
12	OA	PIN Diode O Anode
13	MA	PIN Diode M Anode
14	IA	PIN Diode I Anode
15	GA	PIN Diode G Anode
16	EA	PIN Diode E Anode
17	CA	PIN Diode C Anode
18	AA	PIN Diode A Anode

Ordering Information

OIT30S01	Monolithic 16 Silicon PIN Photodiode Array Chip with Active Area of Each Phototransistor $2.8 \times 1.4 \text{ mm}^2$ Covered with Scintillator for X-rays.
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ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Min	Max	Unit
T _A	Operating Temperature Range	-40	100	°C
T _S	Storage Temperature	-40	100	°C
T _{Sol}	Lead Temperature (solder) 3s		230	°C
V _{R(BR)}	Reverse Breakdown Voltage @ T _A =25°C I _R =10μA	100		V
P _D	Power Dissipation @ T _A =25°C		150	mW

Stresses beyond those listed under "Absolute Maximum Ratings" may cause permanent damage to the device. These are stress ratings only, and functional operation of the device at these or any other conditions beyond those indicated in the operational sections of the specifications is not implied. Exposure to absolute maximum rated conditions for extended periods may affect device reliability.

ELECTRICAL CHARACTERISTICS

T_A = 25°C unless otherwise noted.

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
I _D	Dark Current	V _R =10V				pA
R _λ	Responsivity	V _R =10V λ=530nm Φ=10μW	0.3			A/W
λ _p	Peak Responsivity	V _R =10V		850		nm
	Package/package response uniformity	V _R =10V E=70kV			10	%

AC SWITCHING CHARACTERISTICS

T_A = 25°C unless otherwise noted.

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
C	Capacitance	V _R =10V f=1MHz Φ=0			5	pF

MECHANICAL CHARACTERISTICS

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
A	Active Area			3.92		mm ²
L	Length of the Active Area			2.8		mm
W	Width of the Active Area			1.4		mm

MECHANICAL DIMENSIONS

Units=mm Mechanical tolerance=+/-0.2mm Die positioning tolerance=+/-0.030mm

