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# X-RAY, Silicon Photodiode Array, Photovoltaic (with scintillation screen) Type PDB-V216-S 

PACKAGE DIMENSIONS INCH [mm]


FLUOROSCOPIC X-RAY SCREEN IS A 19.0\% EFFICIENT, ZnCdS:Ag PHOSPHORUS DOPED SCREEN WITH A 530 nm (GREEN) EMISSION FOR $9.66 / 26.7 \mathrm{KeV} X$-RAY ABSORPTION
APPLICATIONS. APPLICATIONS.

16 ELEMENT X-RAY PACKAGE ACTIVE AREA $=2.31 \mathrm{~mm}^{2}$

## FEATURES

- . 062 inch centers
- Stackable
- Scintillation screen
- Low capacitance


## DESCRIPTION

The PDB-V216-S is a common cathode, monolithic silicon PIN photodiode 16 element array. Designed to be stacked end to end to form a line of pixels. Supplied with a fluoroscopic X-Ray scintillation screen.

## APPLICATIONS

- LuggageX-ray
- X-Ray scanner
- X-Ray inspection


## ABSOLUTE MAXIMUM RATING (TA=25 ${ }^{\circ} \mathrm{C}$ unless otherwise noted)

| SYMBOL | PARAMETER | MIN | MAX | UNITS |
| :---: | :--- | :---: | :---: | :---: |
| $\mathrm{V}_{\boldsymbol{\text { ® }}}$ | Reverse Voltage |  | 50 | V |
| $\mathrm{~T}_{\text {sta }}$ | Storage Temperature | -40 | +100 | ${ }^{\circ} \mathrm{C}$ |
| $\mathrm{T}_{\circ}$ | Operating Temperature Range | -20 | +75 | ${ }^{\circ} \mathrm{C}$ |
| $\mathrm{T}_{\mathrm{S}}$ | Soldering Temperature* |  | +265 | ${ }^{*} \mathrm{C}$ |
| $\mathrm{I}_{\mathrm{L}}$ | Light Current |  | 500 | mA |

*1/16 inch from case for 3 secs max

SPECTRALRESPONSE



WAVELENGTH(nm)

ELECTRO-OPTICAL CHARACTERISTICS (TA=25${ }^{\circ} \mathrm{C}$ unless otherwise noted, without scintillator)

| SYMBOL | CHARACTERISTIC | TEST CONDITIONS | MIN | TYP | MAX | UNITS |
| :---: | :--- | :--- | :---: | :---: | :---: | :---: |
| $\mathrm{S}_{\mathrm{S}}$ | Short Circuit Current | $\mathrm{H}=100 \mathrm{fc}, 2850 \mathrm{~K}$ | 18 | 28 |  | $\mu \mathrm{~A}$ |
| $\mathrm{I}_{\mathrm{D}}$ | Dark Current | $\mathrm{H}=0, \mathrm{~V}_{\mathrm{R}}=1 \mathrm{~V}$ |  | 1.0 | 5.0 | nA |
| $\mathrm{R}_{\mathrm{SH}}$ | Shunt Resistance | $\mathrm{H}=0, \mathrm{~V}_{\mathrm{R}}=10 \mathrm{mV}$ | 200 | 400 |  | $\mathrm{M} \Omega$ |
| $\mathrm{TCR}_{\mathrm{SH}}$ | RSH Temp. Coefficient | $\mathrm{H}=0, \mathrm{~V}_{\mathrm{R}}=10 \mathrm{mV}$ |  | -8 |  | $\% /{ }^{\circ} \mathrm{C}$ |
| $\mathrm{C}_{J}$ | Junction Capacitance | $\mathrm{H}=0, \mathrm{~V}_{\mathrm{R}}=0 \mathrm{~V}^{\star \star}$ |  | 300 | 400 | pF |
| $\lambda$ range | Spectral Application Range | Spot Scan | 350 |  | 1100 | nm |
| $\lambda p$ | Spectral Response - Peak | Spot Scan |  | 950 |  | nm |
| $\mathrm{~V}_{\mathrm{BR}}$ | Breakdown Voltage | $\mathrm{I}=10 \mu \mathrm{~A}$ | 15 | 30 |  | V |
| NEP | Noise Equivalent Power | $\mathrm{V}_{\mathrm{R}}=10 \mathrm{~V} @$ Peak |  | $2 \times 10^{-14}$ |  | $\mathrm{~W} / \sqrt{\mathrm{Hz}}$ |
| tr | Response Time | $\mathrm{RL}=50 \Omega \mathrm{~V}_{\mathrm{R}}=10 \mathrm{~V}$ |  | 50 |  | nS |

Information inthistechnical data sheet is believed to be correctand reliable. However, no responsibility is assumed for possible inaccuracies or omission. Specifications are subject to change without notice. ${ }^{* *} \mathrm{f}=1 \mathrm{MHz}$
[FORMNO. 100-PDB-V216-SREVD]

