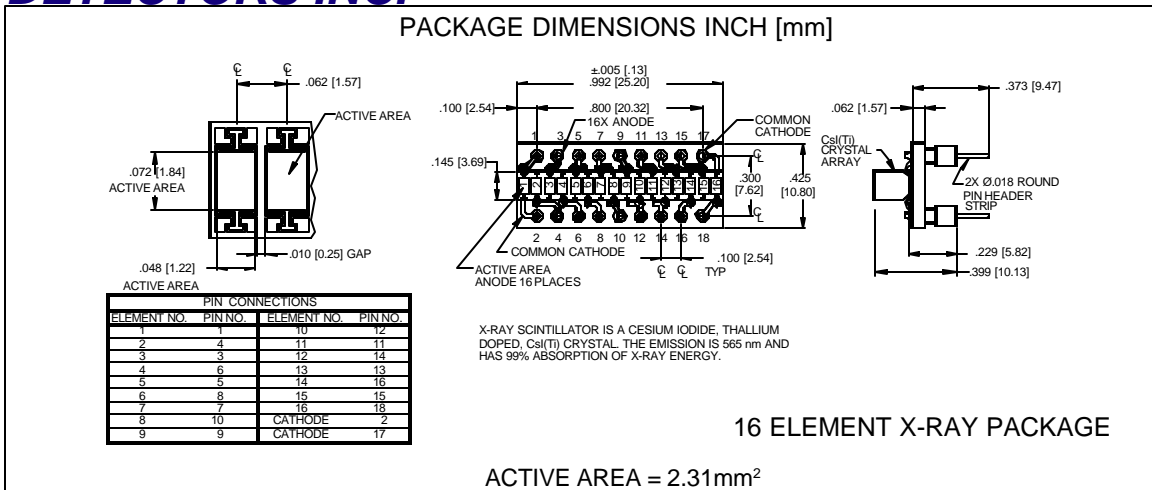


PHOTONIC DETECTORS INC.

X-RAY, Silicon Photodiode Array, Photoconductive (with CsI(Tl) scintillation crystals) Type PDB-C216-C



FEATURES

- .062 inch centers
- Stackable
- CsI(Tl) crystals
- Low capacitance

DESCRIPTION

The **PDB-C216-C** 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 X-Ray CsI(Tl) scintillation crystals.

APPLICATIONS

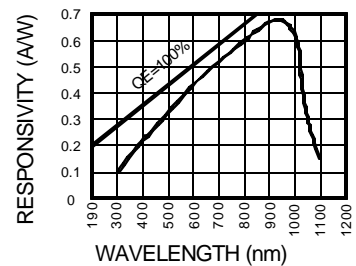
- Luggage X-ray
- X-Ray scanner
- X-Ray inspection

ABSOLUTE MAXIMUM RATING (TA=25°C unless otherwise noted)

| SYMBOL | PARAMETER | MIN | MAX | UNITS |
|------------------|-----------------------------|-----|------|-------|
| V _{BR} | Reverse Voltage | | 50 | V |
| T _{STG} | Storage Temperature | -40 | +100 | °C |
| T _O | Operating Temperature Range | -20 | +75 | °C |
| T _S | Soldering Temperature* | | +265 | °C |
| I _L | Light Current | | 500 | mA |

*1/16 inch from case for 3 secs max

SPECTRAL RESPONSE



ELECTRO-OPTICAL CHARACTERISTICS (TA=25°C unless otherwise noted, without scintillator)

| SYMBOL | CHARACTERISTIC | TEST CONDITIONS | MIN | TYP | MAX | UNITS |
|--------------------|----------------------------|---------------------------------|-----|---------------------|------|--------|
| I _{SC} | Short Circuit Current | H = 100 fc, 2850 K | 18 | 28 | | mA |
| I _D | Dark Current | H = 0, V _R = 1 V | | 1.0 | 5.0 | nA |
| R _{SH} | Shunt Resistance | H = 0, V _R = 10 mV | 100 | 200 | | MΩ |
| TC R _{SH} | RSH Temp. Coefficient | H = 0, V _R = 10 mV | | -8 | | % / °C |
| C _J | Junction Capacitance | H = 0, V _R = 0 V** | | 40 | 60 | pF |
| λ _{range} | Spectral Application Range | Spot Scan | 350 | | 1100 | nm |
| λ _p | Spectral Response - Peak | Spot Scan | | 950 | | nm |
| V _{BR} | Breakdown Voltage | I = 10 mA | 15 | 30 | | V |
| NEP | Noise Equivalent Power | V _R = 10 V @ Peak | | 2x10 ⁻¹⁴ | | W/√Hz |
| tr | Response Time | RL = 50 Ω V _R = 10 V | | 800 | | nS |

Information in this technical data sheet is believed to be correct and reliable. However, no responsibility is assumed for possible inaccuracies or omission. Specifications are subject to change without notice. ** f = 1 MHz