

Multi-Channel X-Ray Detector Series

Scintillator Compatible Photodiode Arrays

Features

- Scintillator Platform
- 5 Volt Bias
- Channel spacing variety

Applications

- Position Sensors
- Multi-channel Gamma counting
- X-ray Security Systems

This series consists of 16-element arrays: the individual elements are grouped together and mounted on PCB.

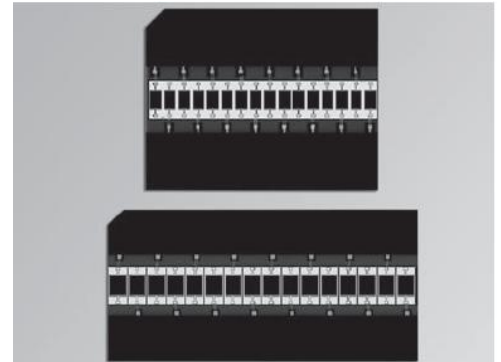
For X-ray or Gamma-ray application, these multi-channel detectors offer scintillator-mounting options: BGO, CdWO₄ or CsI(Tl).

BGO (Bismuth Germanate) acts as an ideal energy absorber: it is widely accepted in high-energy detection applications.

CdWO₄ (Cadmium Tungstate) exhibits sufficiently high light output, helping improve Spectrometry results.

CsI (Cesium Iodide) is another high energy absorber, providing adequate resistance against mechanical shock and thermal stress.

When coupled to scintillator, these Si arrays map any medium or high radiation energy over to visible spectrum via scattering effect. Also, their specially designed PCB allows end-to-end connectivity. Multiple arrays can be deployed in situation that calls for larger scale assembly.





Typical Electro-Optical Specifications (at $T_A = 23^\circ\text{C}$)

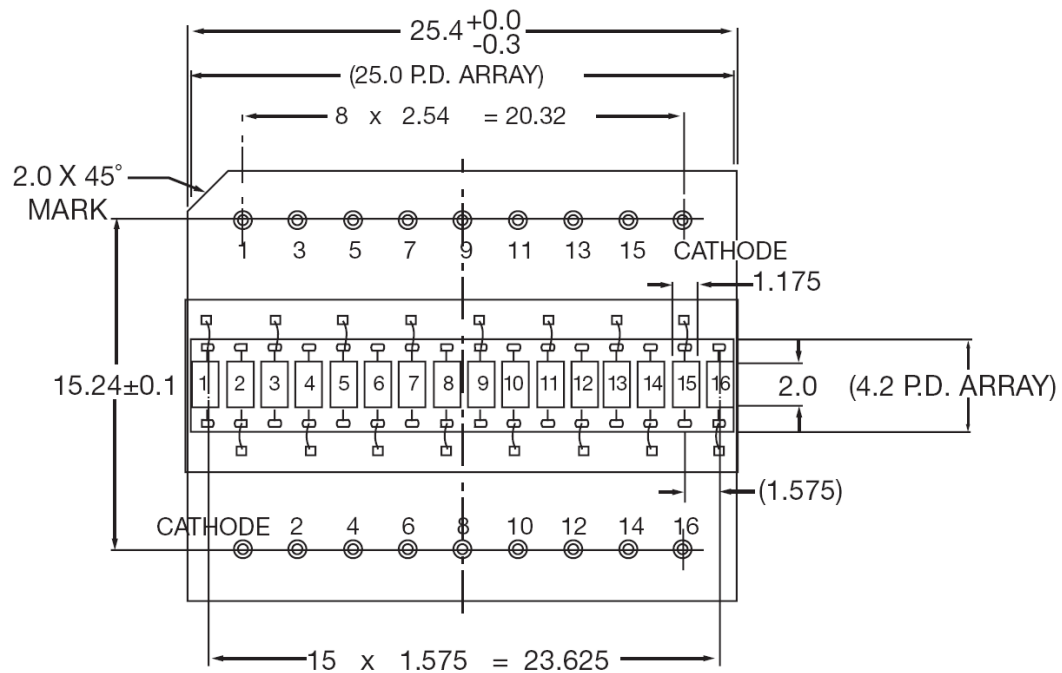
| Model Number | Number of Elements | Active Area per Element | | Pitch (mm) | Responsivity (A/W) Typ | | Dark Current (pA) -10mV |
|-------------------------------|--------------------|-------------------------|-----------------|------------|------------------------|-------|-------------------------|
| | | Area (mm ²) | Dimensions (mm) | | 540nm | 930nm | Typ |
| Photoconductive Arrays | | | | | | | |
| A200C | 16 | 2.35 | 2.00 x 1.18 | 1.57 | 0.31 | 0.59 | 5 |
| A500C | 16 | 5.28 | 2.54 x 2.08 | 2.54 | | | 10 |

| Model Number | Terminal Capacitance (pF) | Rise Time (μs) | Reverse Bias (V) | NEP (W/ $\sqrt{\text{Hz}}$) | Temp. Range ($^\circ\text{C}$) | |
|-------------------------------|---------------------------|-----------------------------|------------------|------------------------------|----------------------------------|-----------|
| | 0V, 10KHz | 0V, 1K Ω | Max | -10mV, 930nm | Operating | Storage |
| | Typ | Typ | | Typ | | |
| Photoconductive Arrays | | | | | | |
| A200C | 28 | 0.1 | 5 | 5.30 e-15 | -10 ~ +60 | -20 ~ +70 |
| A500C | 70 | 0.1 | | 7.50 e-15 | | |

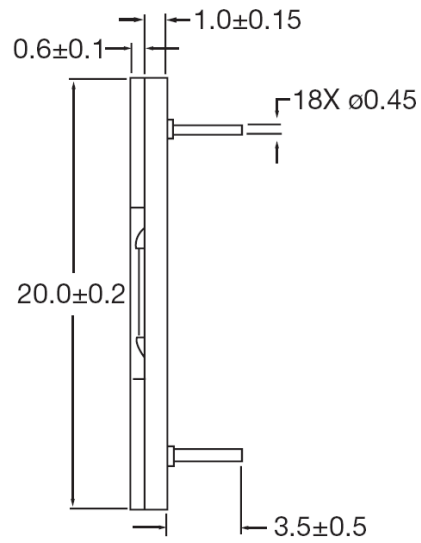
Mechanical Specifications

(All units in mm)

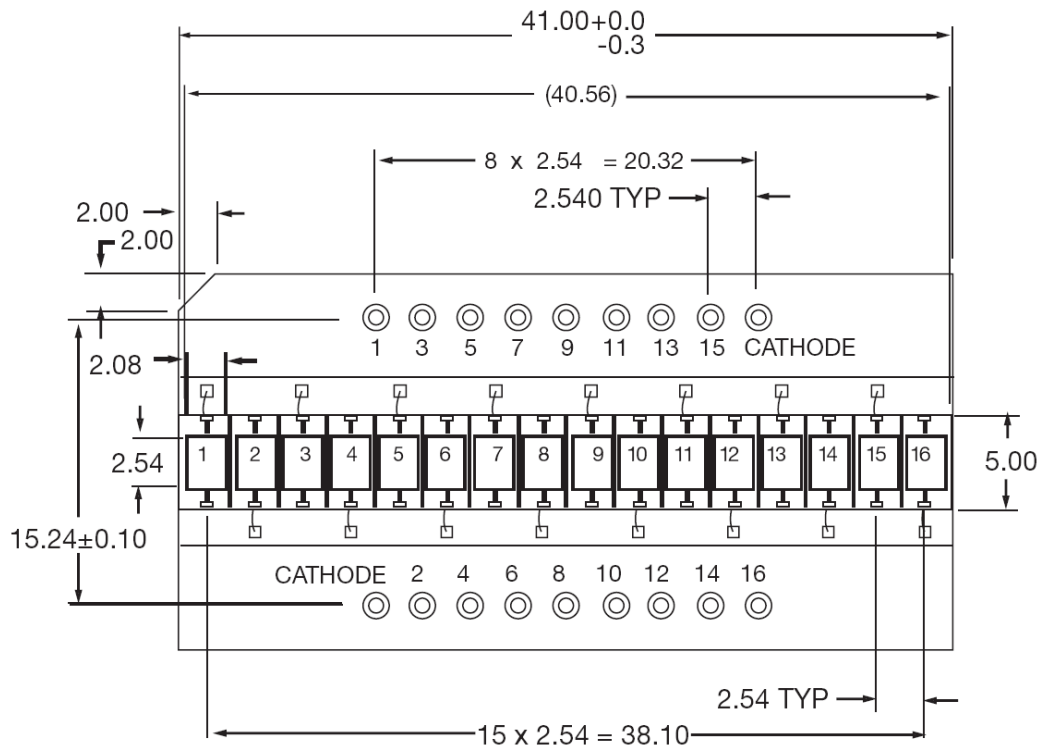
A200C



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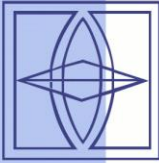


A500C



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