kromek
detect image identify

Coplanar Grid

Applications:

- Homeland Security
- Remote portable sensors
- Isotope identification
- Lab based gamma-ray spectroscopy
- Health Physics
- Medical diagnostics

Features

- Excellent energy resolution

Coplanar Grid

CZT-based, Room Temperature, High-resolution Radiation Detector

Co-Planar Grid Detectors (CPG) are CZT-based, room temperature, large volume, high resolution, gamma ray detectors for nuclear spectroscopy applications.

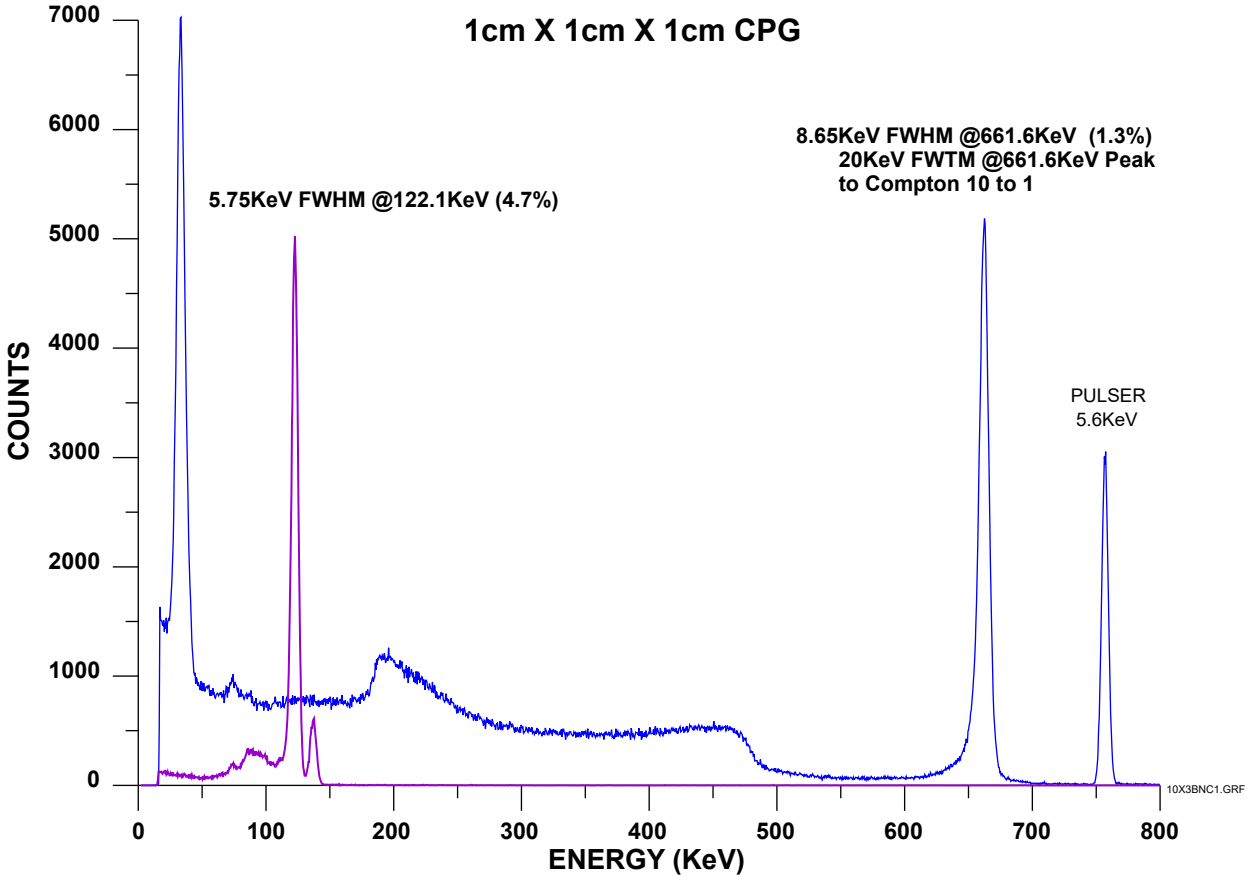
The eV-CPG™ detectors combine a large volume CZT detector and associated electronics into a portable design. These detectors are available in sizes of $10x10x10mm^3$ and $15x15x7.5mm^3$. Other larger sizes are available.

The CPG electrode design provides the basis for a significant increase in the size and detection efficiency of CZT detectors while achieving extremely high energy resolution. eV-CPG™ detectors are ideal for applications requiring high efficiency, high resolution, room-temperature operation. Their compact size and rugged design allows their use in harsh or restrictive environments. The energy resolution of the CPG detectors varies with the active volume of the CZT crystal.

The application of the CPG electrode structure creates an electron-only collection device that allows for a reduction in tailing caused by the trapping of charge in the CZT crystal. For this technique the anode is divided into 2 sets of connected electrode grids, with each set coupled to an independent preamplifier. One set of grids (the collecting anode) is held at a slightly more positive potential than the non-collecting set.

The preamplifiers are then connected to a differential amplifier and the resulting signal is fed to an external shaping amplifier via supplied cables.

Coplanar Grid



Specifications:

Detector size:	10x10x10mm³ - eV part #165597-06
Resolution:	<2 to 4% FWHM, FWTM/FWHM <3
Energy range:	30keV to 2.0MeV
Operating temperature range:	+10° to +35° C standard - all measurements taken at 25°C
Housing dimensions	38.1mm dia. x 159.5mm length
Connects to standard MCA	
Electronics requirements:	
- CPG detector input requirements:	+/-12VDC, HV bias (negative 1200V to negative 2000VDC), and ground
- Signal output:	Tail pulse with negative polarity; ~ 600ns rise time and ~700µs fall time

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