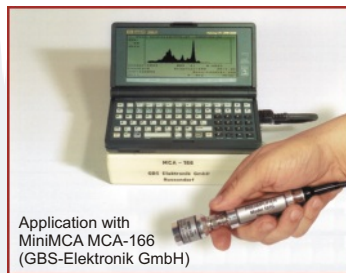


CZT/500 and CZT/1500

CdZnTe Large Volume Spectroscopy Detectors



Main Applications



Application with
MiniMCA MCA-166
(GBS-Elektronik GmbH)

Main Features

- High efficiency
- High energy resolution
- Room temperature operation
- Small dimensions and weight
- Wide detection range

- Nuclear materials verification
- Environmental monitoring
- Control of illicit trafficking of nuclear materials
- Portable spectrometers
- Monitoring of nuclear material flow

**TEN YEARS IN THE FIELD
OF ROOM TEMPERATURE
SEMICONDUCTOR DETECTORS**



NUCLEAR RADIATION
SEMICONDUCTOR DETECTORS
AND ASSOCIATED ELECTRONICS

CdZnTe Large Volume Spectroscopy Detectors CZT/500 and CZT/1500

The CZT/500 and CZT/1500 are room temperature gamma-radiation spectroscopy detectors. The basic advantage of this detector is a large sensitive volume of 0.5 cm³ for CZT/500 and of 1.5 cm³ for CZT/1500. These detectors can be used with miniature low noise charge sensitive preamplifier PA 101C. Application of the other preamplifiers is possible too. These detectors have been designed for application in portable spectrometers for different applications. Due to the high spectroscopy performance these detectors can be used for nuclide identification.

Specifications

Spectroscopy Performance

Detector	Detector Volume, cm ³	Bias Voltage, V	Energy Resolution (FWHM) at 662 keV, keV		Peak-to-Compton Ratio at 662 keV	
			Standard Grade	Super Grade	Standard Grade	Super Grade
CZT/500(S)	0.5	≤ 1500	≤ 30 keV	≤ 18 keV	≥ 2.3	≥ 4.0
CZT/1500	1.5	≤ 3500	≤ 30 keV	n/a	≥ 2.5	n/a

Basic

• detector type	CdZnTe quasi-hemispherical detector
• detector high voltage polarity	positive
• range of recommended operation temperature	0 to 40 °C

Dimensions

• CZT/500(S)	
length (without connector)	33 mm
diameter	23 mm
• CZT/1500	
length (without connector)	36 mm
diameter	32 mm

Connector

• CZT/500(S)	BNC
• CZT/1500	SHV

