

uIDM256A-CZT25.6

The micro-IDM compact gamma ray detector module comes with a room temperature Cadmium-Zinc-Telluride (CZT) semi-conductor sensor with 256 pixels, arranged in a 16x16 matrix. Each pixel is connected to a channel with amplification and trigger circuitry implemented in application specific integrated circuits (ASICs).

The ASIC amplifies and samples the analog signal when the input signal is above a user programmable threshold. The trigger signal, the address of the triggered channel and the charge signal is then available at the at the output interface. The output self-resets after a predetermined time.

The uIDM256A allows for gamma ray energy measurements up to 350 keV. The module has been measured to with a Co-57 source and at room temperature. The Co-57 photo-peak at 122 keV has 5.4 keV full-width-half-maximum (FWHM) energy resolution.

The modules can be arranged to create gamma ray cameras of different geometries. Typical applications include arrays of uIDM256 modules, creating a larger imaging array. The module has two M2 threaded holes for mounting. The module has two electrical connectors, which allows for mounting on a carrier board.

The detector modules are insensitive to magnetic fields and can be operated in vacuum/space.

The module is also available with 40 mm x 40 mm CZT crystal: [uIDM256A-40](#), or without a crystal: [uIDM256](#).

The uIDM256 is also available in a 700 keV-charge range version: [uIDM256B-CZT25.6](#)

Carrier boards for multiple uIDM256 modules can be delivered, contact IDEAS for more information.

Detectors CZT

Application Gamma ray cameras

Input charge range 0 keV to 350 keV

Number of pixels 256

Pixel pitch 1.6 mm

Energy resolution 5% FWHM at 122 keV

Trigger threshold Programmable

Outputs Energy and triggered channel

Power consumption 250 mW (excluding CZT)

