

### • Description

SemeaTech's 3cc Cesium Iodine Gamma Sensor consists of a cesium iodide crystal, a photodiode, and a high-gain preamplifier that can be used to measure X and  $\gamma$  radiation from 50keV to 3MeV. It features high sensitivity and an instant response time (of about a second) to a very minor change of X and  $\gamma$  ( $0.01\mu\text{Sv/h}$ ).

The sensor is housed in a  $45 \times 24 \times 18 \pm 0.5\text{mm}$  metal housing with a cable of approx, 55mm as the connection interface. The connector is a 4-pin MOLEX PicoBlade 1.25mm (.049") connector (reference Molex connector, part No.51021-0400). Pin assignment are shown below:

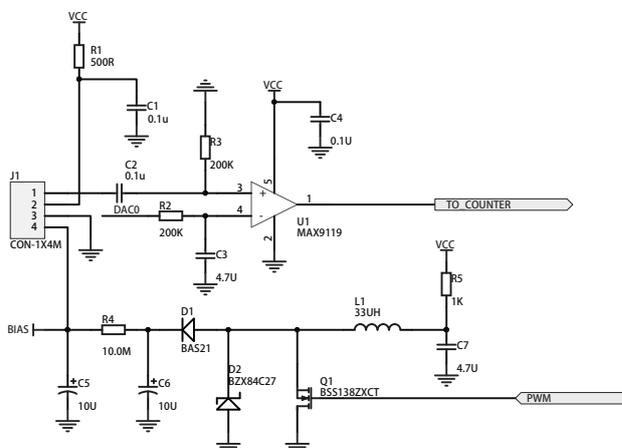
### • Electrical Characteristics

Output:	A full width at half maximum of appr. 60 $\mu\text{s}$ quasi-Gaussian pulse
Power:	2.7 V ~ 3.3 V
Bias:	30 V recommended, maximum 50 V
Noise Level:	80 mV $\pm$ 15 mV at room temperature

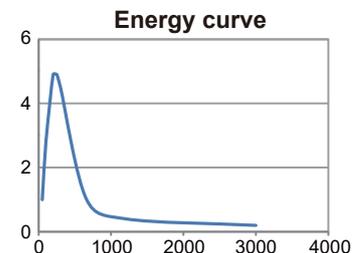
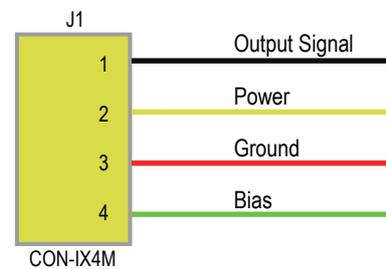
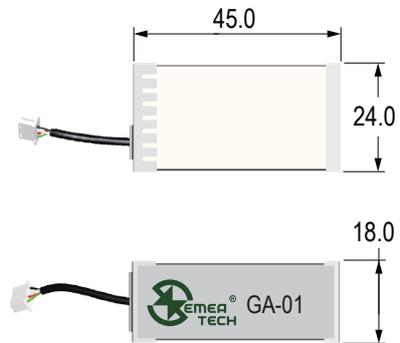
### • Detection Performance

Energy Detection Range:	50 keV ~ 3 MeV
Response Time:	1 s
Signal Amplitude:	$0.9\text{ V} \pm 0.1\text{ V}$ @ 662 keV
Detection Efficiency:	$25,000 \pm 20\%$ count/ $\mu\text{Sv}$ @ 662 keV
Noise Temperature Effect:	Refer to PIN diode characteristics
Working Temperature:	$-20^\circ\text{C} \sim 50^\circ\text{C}$
Life Span:	5 years
Upper Limit of Measurable Dose Rate:	20 mRem/h

### • Application Circuit Reference



### • Product Dimensions



All dimensions in mm  
All tolerances  $\pm 0.20\text{mm}$  unless otherwise stated