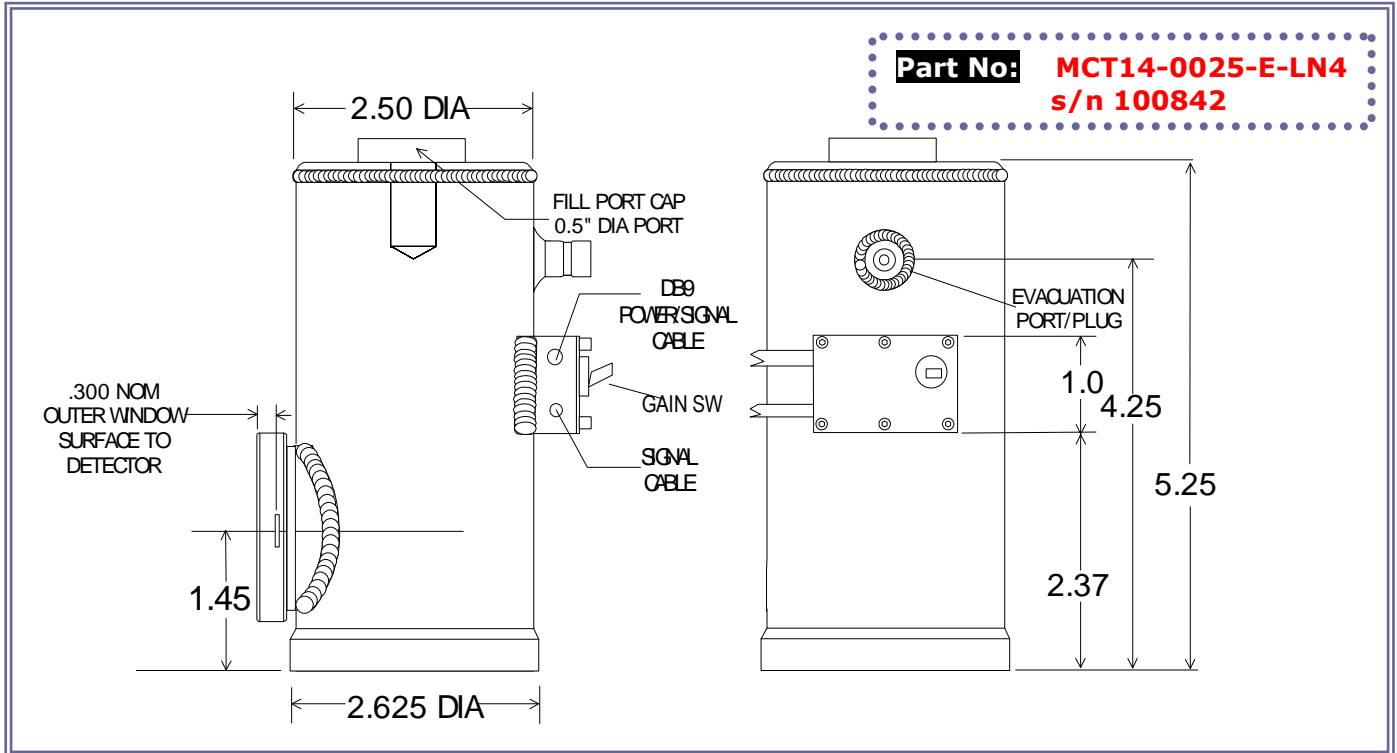


## MCT SERIES CRYOGENIC PHOTODETECTOR/AMPLIFIER



### Application Note

This unit is a high performance cryogenically operated HgCdTe detector/amplifier. The unit should be at LN<sub>2</sub> temperature before turning on power to the amplifier. A funnel is provided to assist in the filling of the dewar, which is best accomplished by gradually filling and topping off over a several minute period. The amplifier has a dual gain function controlled by a switch on the backplate. The HI (up) position is x10 above the LO (down) position. Output is thru a BNC-type cable, and power is connected thru a shielded multi-wire cable terminated in a 9-pin Dsub connector or solder leads.

### SPECIFICATIONS

Active Area	0.25 mm x 0.25 mm
Spectral Range	2 - 14+ μm ; pk @ ~ 12.5 μm
Detectivity (D*pk)	5.1 x 10 <sup>10</sup> cm-Hz <sup>1/2</sup> /W
Dewar Hold Time	8 hours minimum with liquid N <sub>2</sub>
Field of View	60° nominal
Window Material	Zn Se
Responsivity (pk), at amp out, V/W	2.3 x 10 <sup>6</sup> HI ; 2.3 x 10 <sup>5</sup> LO
Noise @ amp out, V/Hz <sup>1/2</sup>	1.1 x 10 <sup>-6</sup> HI / 1.1 x 10 <sup>-7</sup> LO
Bandwidth	5 Hz - 50kHz+
Connections	BNC signal coaxial cable with 3 lead shielded power cable. Red = +V, Black = -V, White/Shield = ground <b>Note:</b> A DB9 connector is provided on units purchased with optional PS-1 Low Noise Power Supply