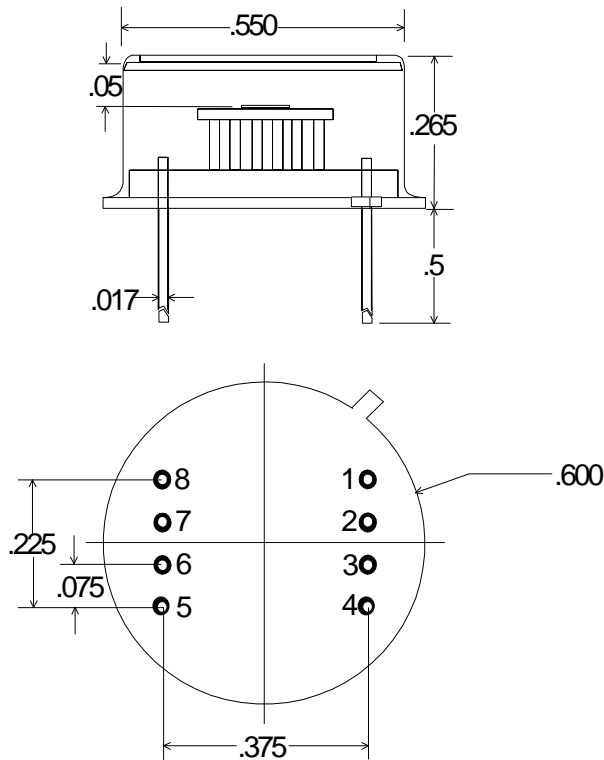


## TO - STYLE PHOTODIODE / AMPLIFIER


**Part no:**
**IGA/IGA - 020 - E8**
**PIN OUT**

- 1 = Bottom Output
- 2 = Inv In Bottom / Photodiode Cathode
- 3 = GND
- 4 = -V
- 5 = N/C
- 6 = Inv In Top / Photodiode Cathode
- 7 = Top Output
- 8 = +V

**Note:** Dimensions in Inches

**Operating Note** This unit is a high performance 2-color sandwich style dual photodiode/transimpedance amplifier unit. The output voltage of each channel is equal to the optical signal power multiplied by the photodiode responsivity in A/W and the feedback resistance in ohms. The unit is DC-coupled and should be shielded from stray or room lights to avoid saturation of the amplifier.

### SPECIFICATIONS

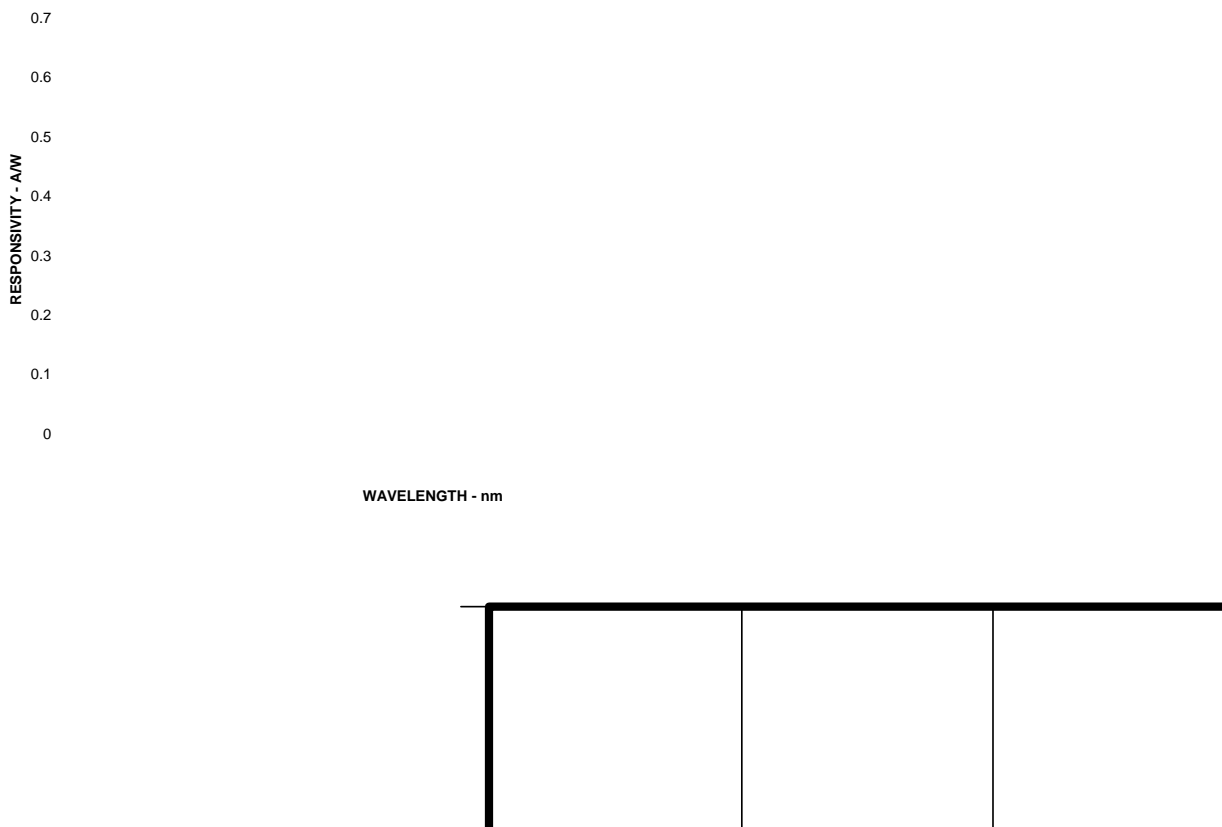
Operating Temperature (°C)	22 C nom.
Photodiode Active Area	2.0 mm dia, each channel
Photodiode Shunt Resistance (MΩ)	10M
Photodiode Shunt Capacitance (pF)	400. nom
Responsivity @ pk (V/W)	$0.9 \times 10^7$ Top / $0.6 \times 10^7$ Bottom (unadjusted)
NEP (100Hz, pk) (W/Hz <sup>1/2</sup> )	$< 5 \times 10^{-14}$
Bandwidth (Hz)	DC - 10k (unadjusted)
Power Requirements	+,- 5VDC to +,- 15VDC, 20mA

*RoHS Compliant*



## TO - STYLE PHOTODIODE / AMPLIFIER

IGA/IGA-020 2-COLOR PHOTODIODE  
Typical Spectral Response - 22C





## TO - STYLE PHOTODIODE / AMPLIFIER

### **OPERATING THE E8 2-COLOR PHOTODIODE/AMPLIFIER**

**POWER SUPPLY:** A bipolar supply is required, +,- 5VDC to +,- 15VDC, 20mA. The power supply pins should be bypassed physically close to the amplifier module. Double check wiring prior to turning on power. Improper/reverse wiring will damage the unit.

**GAIN SELECT:** The unit is supplied with an internal feedback resistance of  $10^7$  ohms on each channel. Other gain settings may be obtained by installing external resistance between pins 1&2 (bottom ch) and pins 6&7 (top ch). The resulting gain is the parallel combination of the internal  $10^7$  ohms and the external resistance. Note that the bandwidth will also be extended if no additional capacitance is added.

**AMBIENT LIGHT:** Because of the high gains involved, the unit must be shielded from ambient background light during operation. Measurement errors and/or saturation can result from improper shielding.

**NOTES ON SOLDERING:** Because of the high impedance values associated with the photodiode and the amplifier circuit it is extremely important to install the unit properly. All residues from the solder and flux must be thoroughly cleaned/removed or leakage will occur resulting in measurement errors and/or saturation of the unit. The photodiode and amplifier are static sensitive and should be handled in a static-controlled workstation. Use only grounded-tip soldering irons. Do not overheat the header pins.