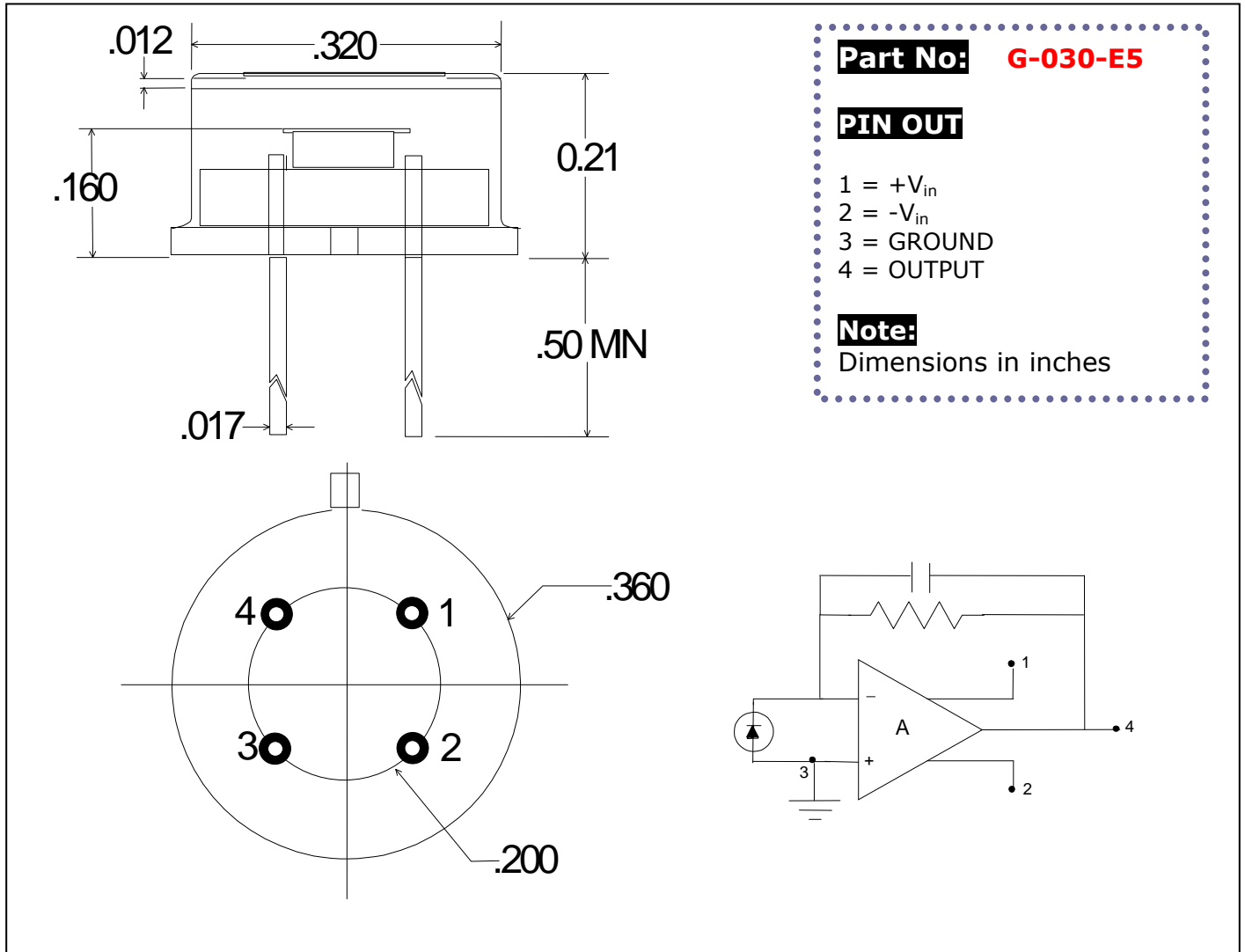


## TO - STYLE RECEIVERS



**Application Note** The preamplifier portion of this receiver is a transimpedance current to voltage converter. Its output voltage is proportional to the input signal current:

$$V_{out} = I_{signal} \times R_{feedback}$$

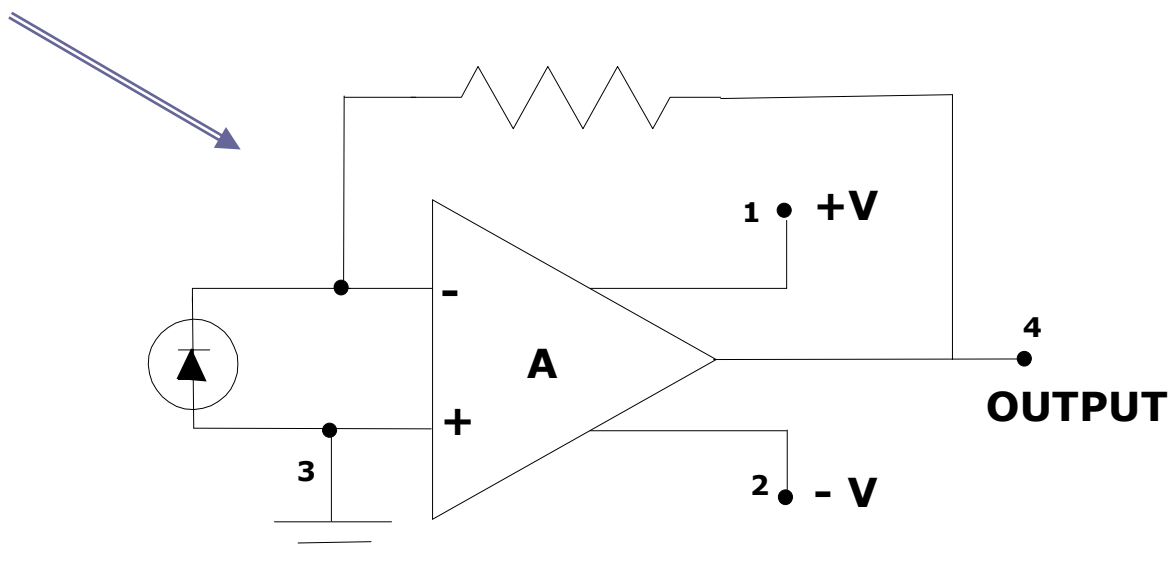
This photodiode/amplifier is a DC coupled, high gain system and care should be taken to shield the unit from stray light during operation. This will help prevent saturation of the amplifier, which could lead to failure of the unit. Obtaining stable, long term operation will require suitable heat sinking.

### SPECIFICATIONS

<b>Detector Type</b>	<b>3 mm Dia Ge Photodiode</b>
<b>Responsivity</b>	<b>.9 x 10<sup>6</sup> V/W @ 1.5 μm</b>
<b>Noise Voltage</b>	<b>&lt; 1.0 x 10<sup>-6</sup> V/Hz<sup>1/2</sup></b>
<b>Bandwidth</b>	<b>DC - 2 kHz (-3db)</b>
<b>Operating Wavelength - um</b>	<b>0.8 - 1.8</b>

*RoHS Compliant*

### PHOTODIODE CIRCUIT [Simplified Schematic]



### OPERATING THE E5 PHOTODIODE/AMPLIFIER

#### NOTE: DO NOT HOOK UP BEFORE READING THESE INSTRUCTIONS!

**POWER SUPPLY:** A bipolar power 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. The pin numbers shown on the data sheet are for a bottom view. Improper/reverse wiring will damage the unit. NOTE: the header should be heatsink-mounted for optimum operation.

**GAIN SELECT:** The unit is supplied with a fixed feedback resistance which can be specified by the user. No other gain select is available.



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### TO - STYLE RECEIVERS

**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.