



ANALOG MODULES, INC.

MODEL 313A
HIGH BANDWIDTH BIPOLAR
TRANSMIMPEDANCE AMPLIFIERS

HIGH BANDWIDTH BIPOLAR TRANSMIMPEDANCE AMPLIFIER

- Bandwidth - from ≤ 1 kHz to 250 MHz
- Low Noise – down to 6.5 pA/ $\sqrt{\text{Hz}}$
- High Gain – up to 20 kV/A
- Excellent Stability for High Capacitance Sources



DESCRIPTION:

The **313A Series** are state-of-the-art bipolar amplifiers designed for current source input applications in which high gain and low noise are required. The design is optimized for high-speed response and has a lower input than the 312A Series, permitting operation with higher capacitive sources.

SPECIFICATIONS:

Input		Power	+15 VDC at 75 mA typical
Impedance	Virtual ground, 50 Ω typical 0.7 V offset, DC coupled	Temperature	-20° to +70°C
Capacitance	See graph on reverse for performance vs. capacitance. Indicate value of input capacitance (add -___pF to part number.)	Connections	
Output		Input	Pins
Load	$\geq 50 \Omega$	Output	BNC
Swing	+2 V, -1.2 V	Power	Filter feed-thru pins and ground lug
Gain		Bias Decoupled	Pin decoupled with 0.01 μF , 1 kV capacitor
Polarity		Size	3.50" x 1.93" x 0.92"
Non-inverting			

Specifications subject to change without notice.

APPLICATIONS:

High Speed Photodetector Amplifier, High Capacitance Detector Preamplifier

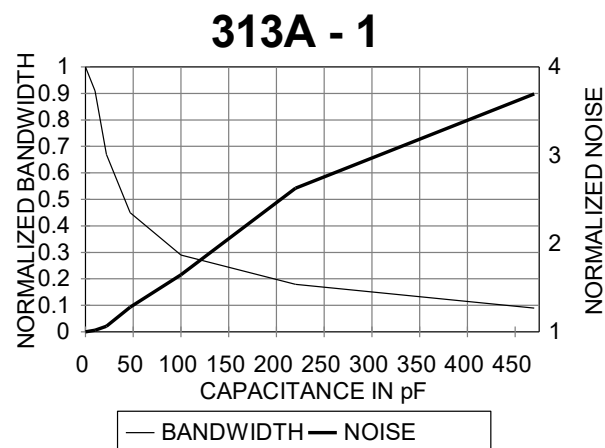
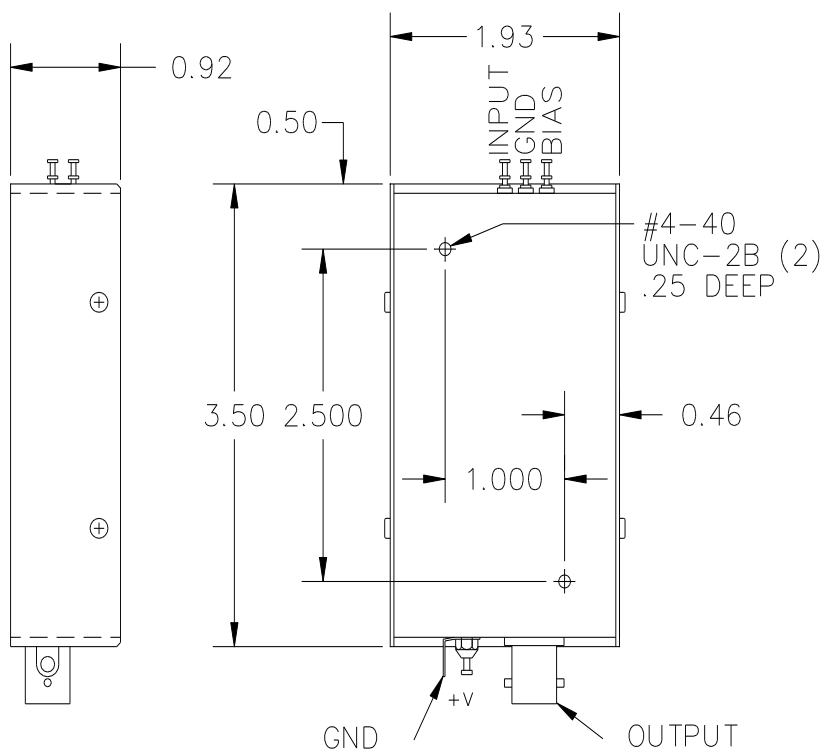
		MODEL NUMBER
		GAIN
		20kV/A
Bandwidth (1) $\pm 20\%$	$\leq 1 \text{ kHz} - 250 \text{ MHz}$	313A-1
Noise (1) $\pm 20\%$	Current Noise (Open circuit input)	6.5 pA/ $\sqrt{\text{Hz}}$

Typical Part Number: 313A-1-1pF =

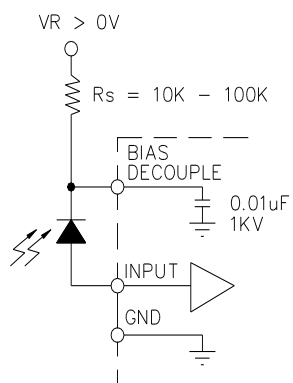
Bandwidth: $\leq 1 \text{ kHz} - 250 \text{ MHz}$

Noise: 6.5 pA/ $\sqrt{\text{Hz}}$

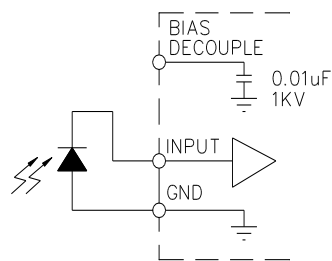
Input Capacitance: 1 pF



DIMENSIONS ARE IN INCHES



PHOTOCONDUCTIVE
MODE



PHOTOVOLTAIIC
MODE

TYPICAL PHOTODETECTOR APPLICATIONS