

## Op Amp Single High Speed Amplifier $\pm 6V/12V$ 8-Pin SOIC Tube



Images are for reference only

[Inquiry](#)

**Manufacturer:** [Texas Instruments, Inc](#)

**Package/Case:** SOP8

**Product Type:** Amplifier ICs

**RoHS:** RoHS Compliant/Lead free 

**Lifecycle:** Active

### General Description

The OPA657 device combines a high-gain bandwidth, low-distortion, voltage-feedback operational amplifier with a low-voltage noise JFET-input stage to offer a very high dynamic range amplifier for high-precision ADC (analog-to-digital converter) driving or wideband transimpedance applications. Photodiode applications see improved noise and bandwidth using this decompensated, high-gain bandwidth amplifier.

Very low level signals can be significantly amplified in a single OPA657 gain stage with exceptional bandwidth and accuracy. Having a high 1.6-GHz gain bandwidth product gives greater than 10-MHz signal bandwidths up to gains of 160 V/V (44 dB). The very low input bias current and capacitance supports this performance even for relatively high source impedances.

Broadband photodetector applications benefit from the low-voltage noise JFET inputs for the OPA657. The JFET input contributes virtually no current noise while for broadband applications, a low voltage noise is also required. The low 4.8 nV/ $\sqrt{\text{Hz}}$  input voltage noise provides exceptional input sensitivity for higher bandwidth applications. The example shown below gives a total equivalent input noise current of 1.8 pA/ $\sqrt{\text{Hz}}$  over a 10-MHz bandwidth.

### Key Features

High Gain Bandwidth Product: 1.6 GHz

High Bandwidth 275 MHz ( $G = 10$ )

Slew Rate 700 V/ $\mu\text{s}$  ( $G = 10$ , 1-V Step)

Available in High Grade With Improved DC

Specifications

Operating Temperature Range:  $-40^{\circ}\text{C}$  to  $85^{\circ}\text{C}$

Low-Input Offset Voltage:  $\pm 250 \mu\text{V}$

Low-Input Bias Current: 2 pA

Low-Input Voltage Noise: 4.8 nV/ $\sqrt{\text{Hz}}$

High-Output Current: 70 mA

Fast Overdrive Recovery

## Recommended For You

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### OPA445BM

Texas Instruments, Inc  
CAN

### OPA1611AIDR

Texas Instruments, Inc  
SOP8

### OPA388QDBVRQ1

Texas Instruments, Inc  
SOT23-5

### OPA2365AQDRQ1

Texas Instruments, Inc  
SOP8

### OPA334AIDBVR

Texas Instruments, Inc  
SOT23-6

### OPA2835IDGSR

Texas Instruments, Inc  
MSOP10

### OPA656U

Texas Instruments, Inc  
SOP8

### OPA360AIDCKR

Texas Instruments, Inc  
SC70-6

### LMI11H/NOPB

Texas Instruments, Inc  
CAN8

### OPA353UA

Texas Instruments, Inc  
SOP8

### LMI3700MX/NOPB

Texas Instruments, Inc  
SOP16

### OPA633KP

Texas Instruments, Inc  
DIP8

### OPA453FAKIWT

Texas Instruments, Inc  
TO263-7

### OPA4251UA

Texas Instruments, Inc  
SOP14

### LMV321M5X/NOPB

Texas Instruments, Inc  
SOT23-5