

# LH0061/LH0061C 0.5 Amp Wide Band Operational Amplifier

## General Description

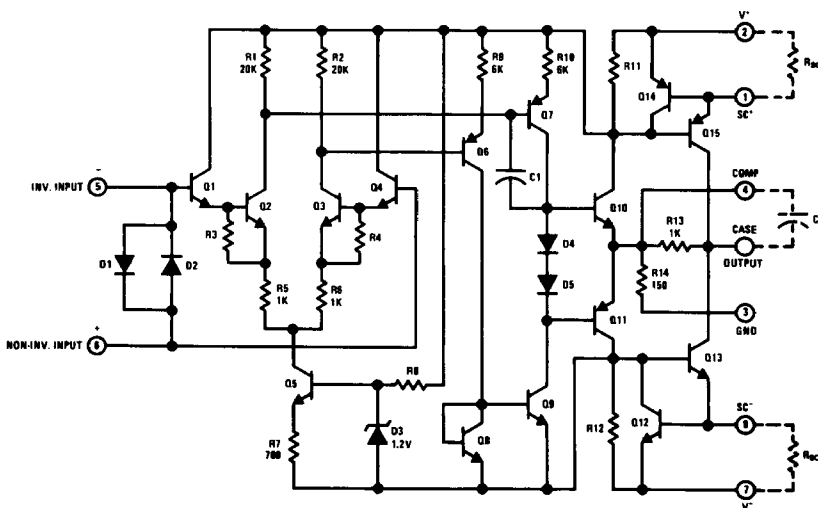
The LH0061/LH0061C is a wide band, high speed, operational amplifier capable of supplying currents in excess of 0.5 ampere at voltage levels of  $\pm 12V$ . Output short circuit protection is set by external resistors, and compensation is accomplished with a single external capacitor. With a suitable heat sink the device is rated at 20W.

The wide bandwidth and high output power capabilities of the LH0061/LH0061C make it ideal for such applications as AC servos, deflection yoke drivers, capstan drivers, and audio amplifiers. The LH0061 is guaranteed over the temperature range  $-55^{\circ}C$  to  $+125^{\circ}C$ ; whereas, the LH0061C is guaranteed from  $-25^{\circ}C$  to  $+85^{\circ}C$ .

## Features

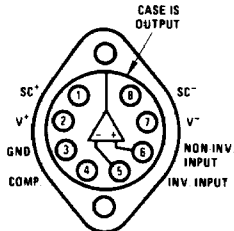
- Output current 0.5A
- Wide large signal bandwidth 1 MHz
- High slew rate 70V/ $\mu$ s
- Low standby power 240 mW
- Low input current 300 nA Max

## Schematic and Connection Diagrams



TL/K/6861-1

### TO-3 Package



Top View

TL/K/6861-2

Order Number LH0061CK  
See NS Package Number K08A



Applications Information (Continued)

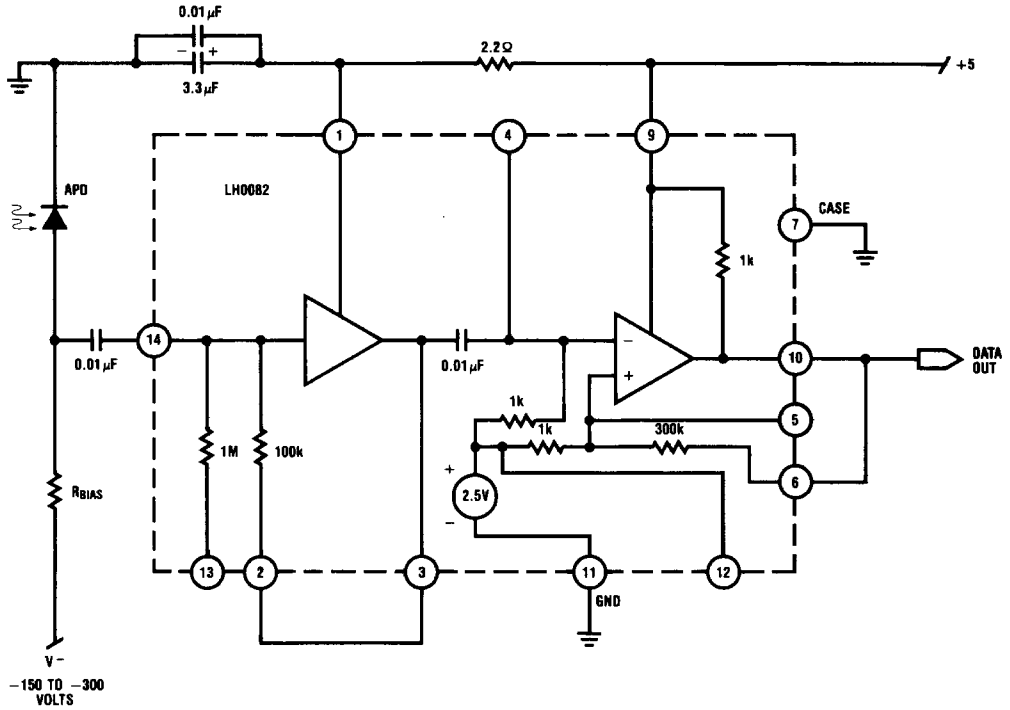


FIGURE 6. Connection to Avalanche Photodiode

TL/H/9325-15

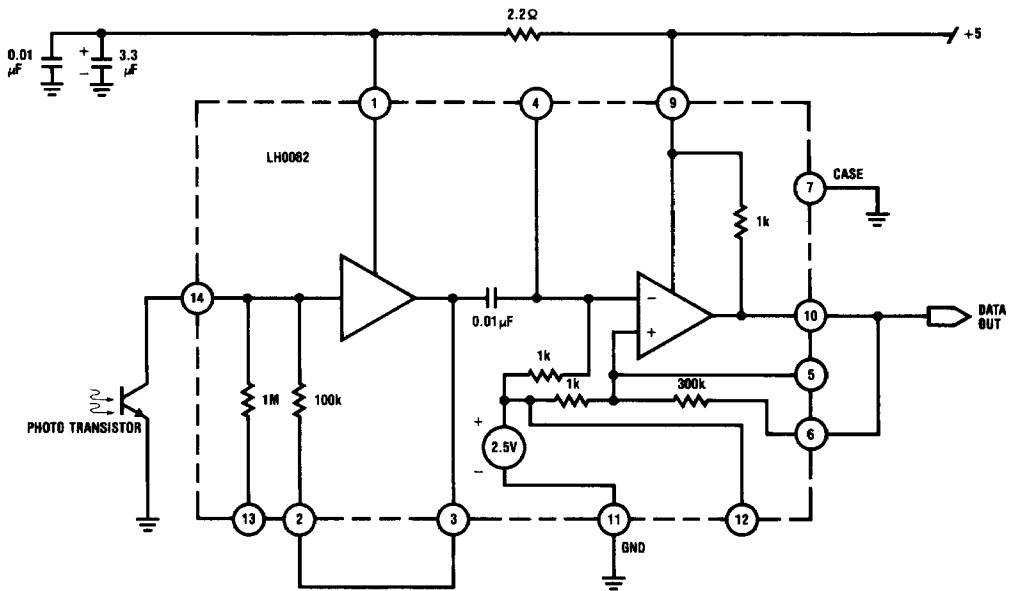


FIGURE 7. Connection to Phototransistor—High Sensitivity, Low Speed

TL/H/9325-16

# AC Electrical Characteristics $(T_C = 25^\circ\text{C}, V_S = \pm 15\text{V}, C_C = 3000\text{ pF})$

Parameter	Conditions	Limits						Units
		LH0061			LH0061C			
		Min	Typ	Max	Min	Typ	Max	
Slew Rate	$A_V = +1, R_L = 100\Omega$	25	70		25	70		$\text{V}/\mu\text{s}$
Power Bandwidth	$R_L = 100\Omega$		1			1		MHz
Small Signal Transient Response			30			30		ns
Small Signal Overshoot			5	20		10	30	%
Settling Time (0.1%)	$\Delta V_{IN} = 10\text{V}, A_V = +1$		0.8			0.8		$\mu\text{s}$
Overload Recovery Time			1			1		$\mu\text{s}$
Harmonic Distortion	$f = 1\text{ kHz}, P_O = 0.5\text{W}$		0.2			0.2		%

**Note 1:** Specifications apply for  $\pm 5\text{V} \leq V_S \leq \pm 18\text{V}$ ,  $C_C = 3000\text{ pF}$ , and  $-55^\circ\text{C} \leq T_C \leq +125^\circ\text{C}$  for the LH0061K and  $-25^\circ\text{C} \leq T_C \leq +85^\circ\text{C}$  for the LH0061CK. Typical values are for  $T_C = 25^\circ\text{C}$ .

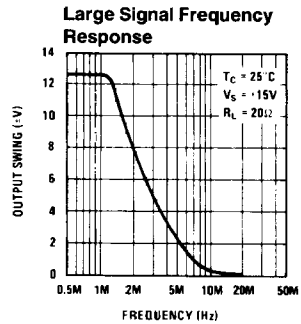
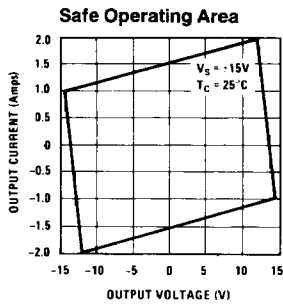
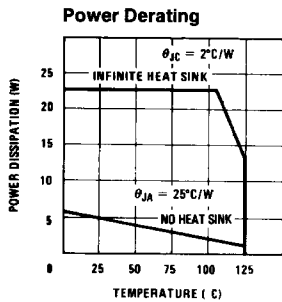
**Note 2:** The inputs are shunted with back-to-back diodes for overvoltage protection. Excessive current will flow if a differential voltage in excess of 1V is applied between the inputs without limiting resistors.

**Note 3:** For supply voltages less than  $\pm 15\text{V}$ , the absolute maximum input voltage is equal to the supply voltage.

**Note 4:** Rating applies as long as package power rating is not exceeded.

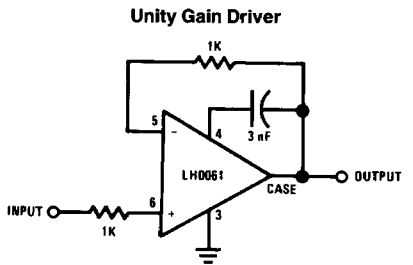
**Note 5:** Refer to RETS0061K for LH0061K military specifications.

## Typical Performance Characteristics

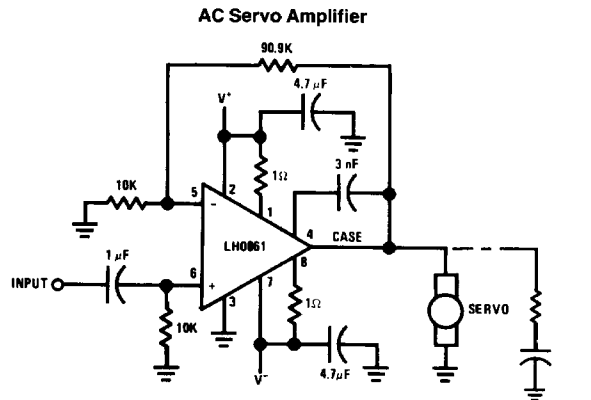


TL/K/6861-3

## Typical Applications



TL/K/6861-4



TL/K/6861-5