

LH0061/LH0061C 0.5 Amp Wide Band Operational Amplifier

General Description

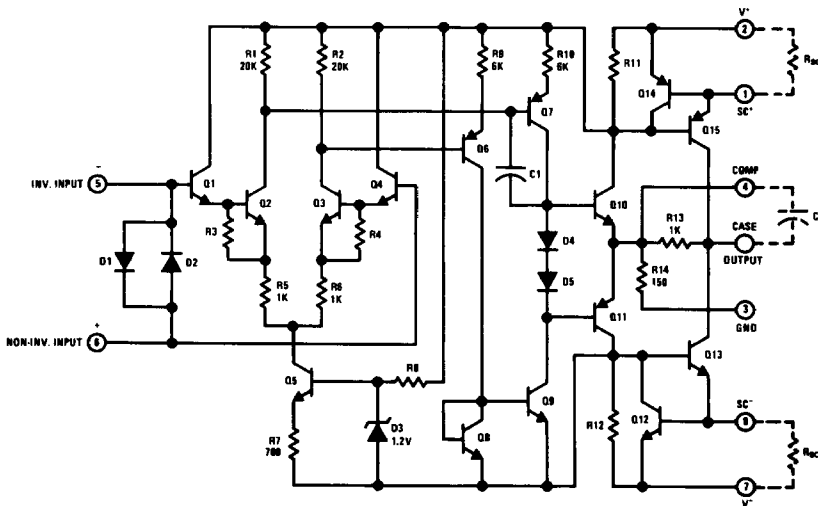
The LH0061/LH0061C is a wide band, high speed, operational amplifier capable of supplying currents in excess of 0.5 ampere at voltage levels of $\pm 12V$. Output short circuit protection is set by external resistors, and compensation is accomplished with a single external capacitor. With a suitable heat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

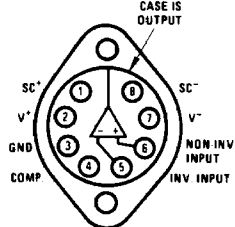
- Output current 0.5A
- Wide large signal bandwidth 1 MHz
- High slew rate 70V/ μ s
- Low standby power 240 mW
- Low input current 300 nA Max

Schematic and Connection Diagrams



TL/K/6861-1

TO-3 Package



Top View

Order Number LH0061CK
See NS Package Number K08A

TL/K/6861-2

Applications Information (Continued)

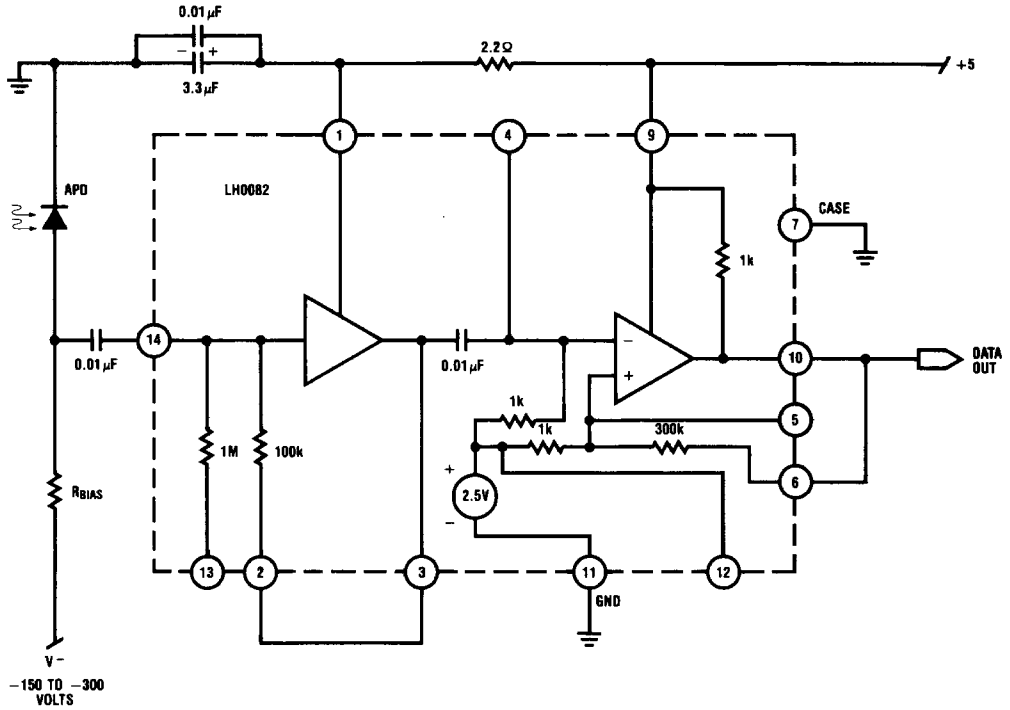


FIGURE 6. Connection to Avalanche Photodiode

TL/H/9325-15

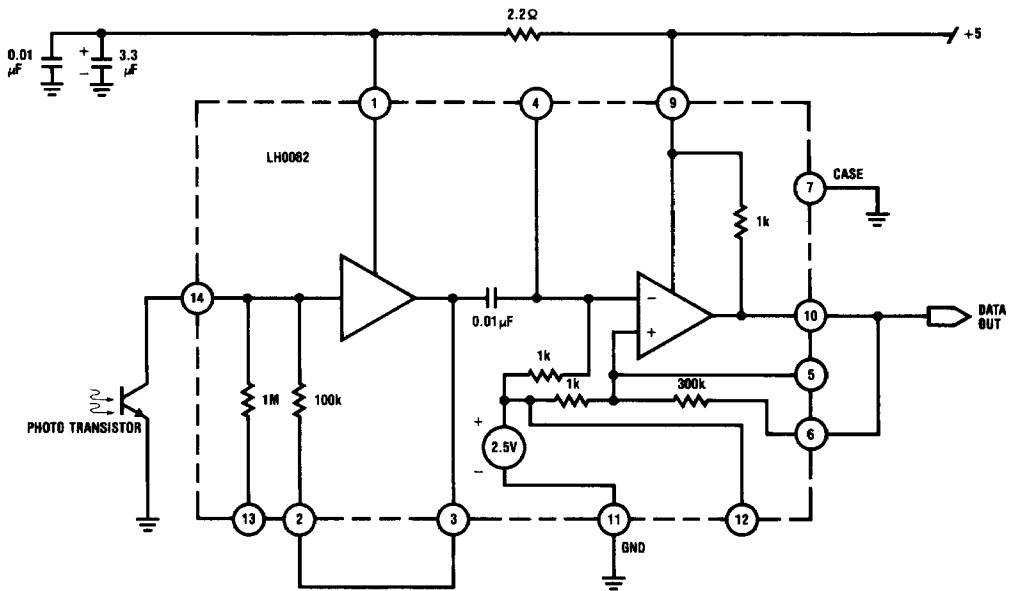


FIGURE 7. Connection to Phototransistor—High Sensitivity, Low Speed

TL/H/9325-16

AC Electrical Characteristics (T_C = 25°C, V_S = ±15V, C_C = 3000 pF)

Parameter	Conditions	Limits						Units
		LH0061			LH0061C			
		Min	Typ	Max	Min	Typ	Max	
Slew Rate	A _V = +1, R _L = 100Ω	25	70		25	70		V/μs
Power Bandwidth	R _L = 100Ω		1			1		MHz
Small Signal Transient Response			30			30		ns
Small Signal Overshoot			5	20		10	30	%
Settling Time (0.1%)	ΔV _{IN} = 10V, A _V = +1		0.8			0.8		μs
Overload Recovery Time			1			1		μs
Harmonic Distortion	f = 1 kHz, P _O = 0.5W		0.2			0.2		%

Note 1: Specifications apply for ±5V ≤ V_S ≤ ±18V, C_C = 3000 pF, and -55°C ≤ T_C ≤ +125°C for the LH0061K and -25°C ≤ T_C ≤ +85°C for the LH0061CK. Typical values are for T_C = 25°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.

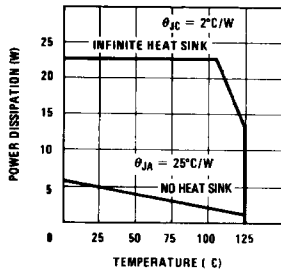
Note 3: For supply voltages less than ±15V, the absolute maximum input voltage is equal to the supply voltage.

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

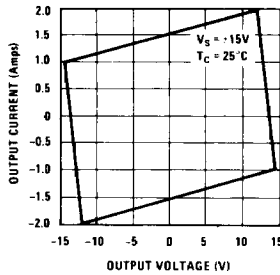
Note 5: Refer to RETS0061K for LH0061K military specifications.

Typical Performance Characteristics

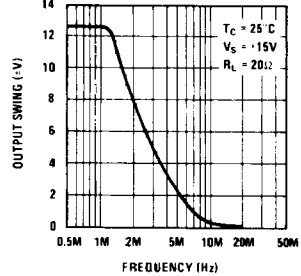
Power Derating



Safe Operating Area



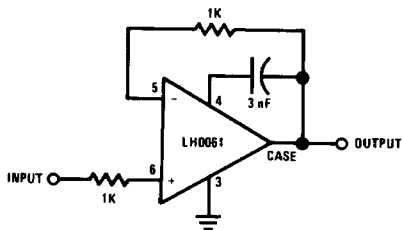
Large Signal Frequency Response



TL/K/6861-3

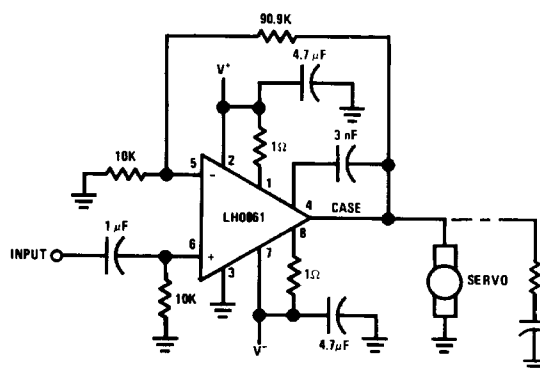
Typical Applications

Unity Gain Driver



TL/K/6861-4

AC Servo Amplifier



TL/K/6861-5