

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.

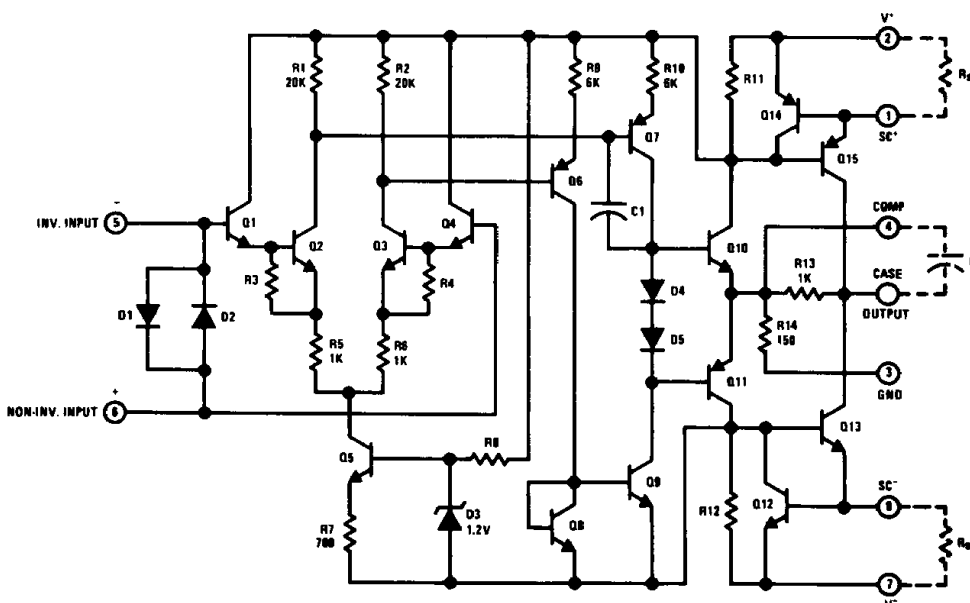
The wide bandwidth and high output power capabilities of the LH0061/LH0061C make it ideal for such applications as AC servos, deflection yoke drivers, capstan drivers, and audio amplifiers. The LH0061 is guaranteed over the temperature range $-55^{\circ}C$ to $+125^{\circ}C$; whereas, the LH0061C is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

Features

- Output current
- Wide large signal bandwidth
- High slew rate
- Low standby power
- Low input current

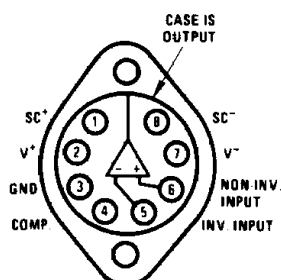
0.5A
1 MHz
70V/ μs
240 mW
300 nA Max

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

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		$V/\mu s$
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%)	$\Delta V_{IN} = 10V, A_V = +1$		0.8			0.8		μs
Overload Recovery Time			1			1		μs
Harmonic Distortion	$f = 1\text{ kHz}, P_O = 0.5W$		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.

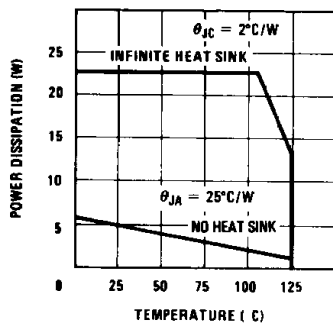
Note 3: For supply voltages less than $\pm 15\text{V}$, the absolute maximum input voltage is equal to the supply voltage.

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

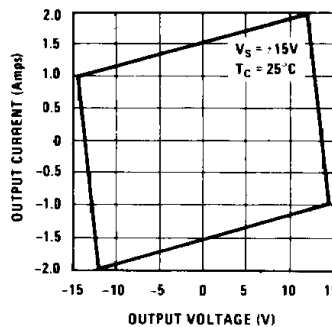
Note 5: Refer to RETS0061K for LH0061K military specifications.

Typical Performance Characteristics

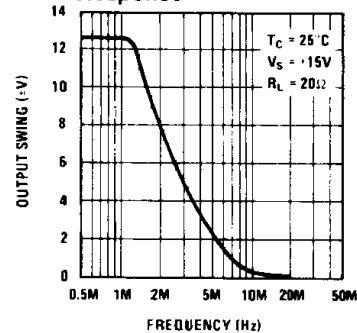
Power Derating



Safe Operating Area



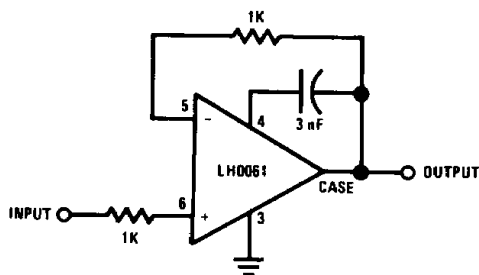
Large Signal Frequency Response



TL/K/6861-3

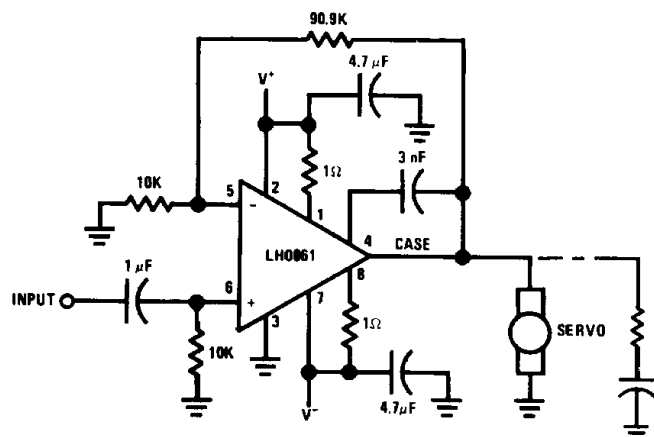
Typical Applications

Unity Gain Driver



TL/K/6861-4

AC Servo Amplifier



TL/K/6861-5