



LH0061/LH0061C 0.5 Amp Wide Band Operational Amplifier

LH0061/LH0061C

General Description

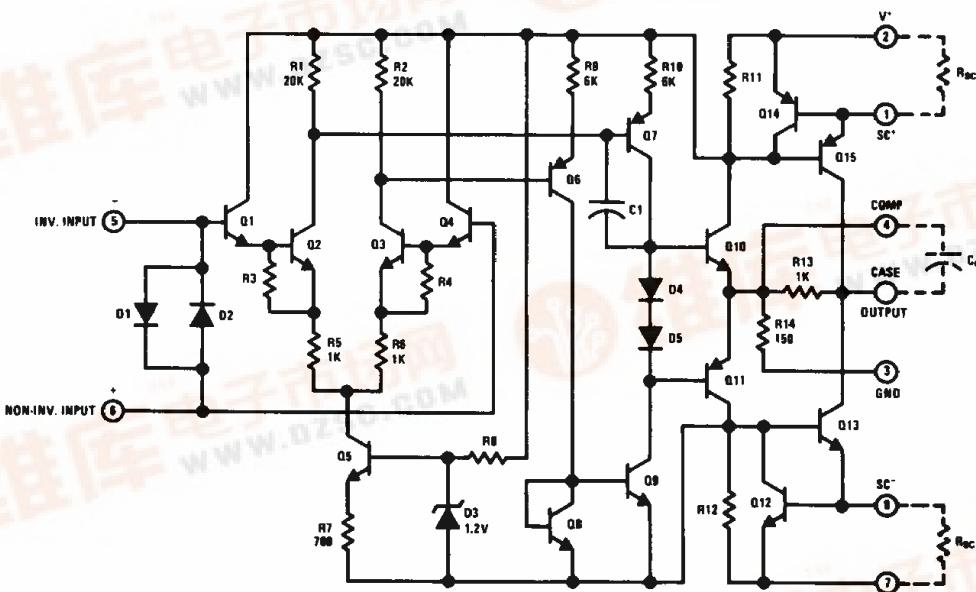
The LH0061/LH0061C is a wide band, high speed, operational amplifier capable of supplying currents in excess of 0.5 ampere at voltage levels of $\pm 12V$. Output short circuit protection is set by external resistors, and compensation is accomplished with a single external capacitor. With a suitable heat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

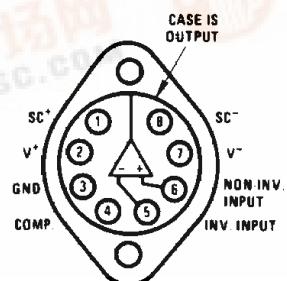
Schematic and Connection Diagrams



TL/K/6861-1

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TO-3 Package



Top View

TL/K/6861-2

Order Number LH0061CK
See NS Package Number K08A

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		μs	
Overload Recovery Time			1			1		μs	
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 $T_C = 25^\circ\text{C}$.

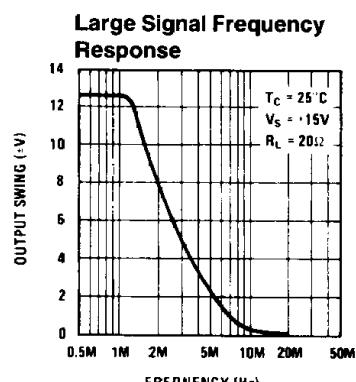
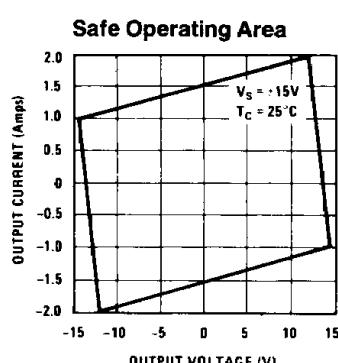
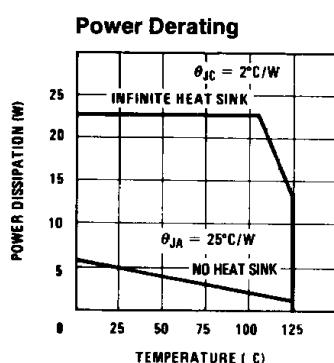
Note 2: The inputs are shunted with back-to-back diodes for overvoltage protection. Excessive current will flow if a differential voltage in excess of 1V is applied between the inputs without limiting resistors.

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.

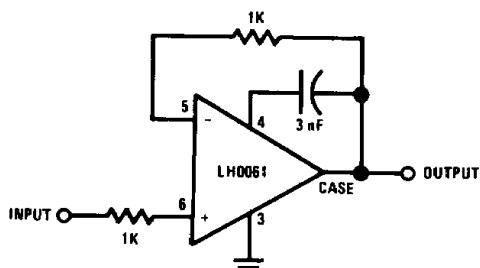
Typical Performance Characteristics



TL/K/6861-3

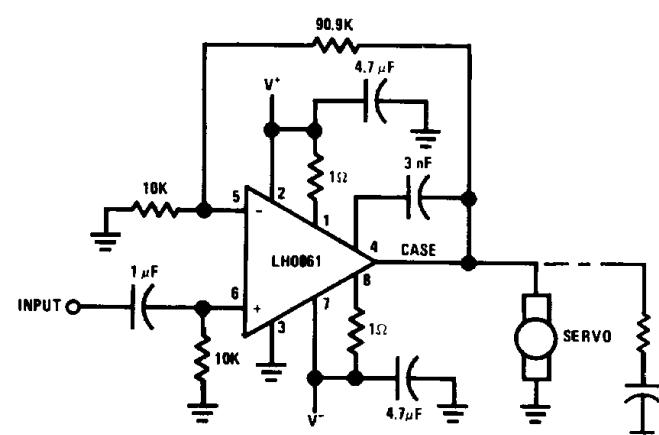
Typical Applications

Unity Gain Driver



TL/K/6861-4

AC Servo Amplifier



TL/K/6861-5