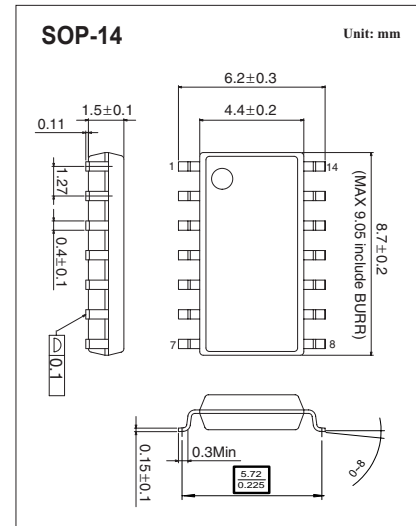
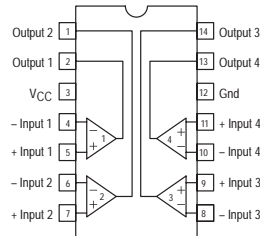
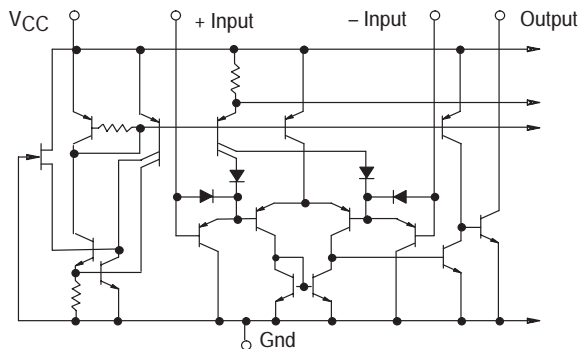


Features

- Single or Split Supply Operation
- Low Input Bias Current: 25 nA (Typ)
- Low Input Offset Current: ± 5.0 nA (Typ)
- Input Common Mode Voltage Range to Gnd
- Low Output Saturation Voltage: 130 mV (Typ) @ 4.0 mA
- TTL and CMOS Compatible



■ Circuit Schematic



■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Power Supply Voltage	V _{CC}	+36 or ± 18	V
Input Differential Voltage Range	V _{IDR}	36	V
Input Common Mode Voltage Range	V _{ICR}	-0.3 to V _{CC}	V
Output Short Circuit-to-Ground *	I _{SC}	Continuous	
Power Dissipation @ $T_A = 25^\circ\text{C}$			
Derate above 25°C	P _D	8.0	mW/ $^\circ\text{C}$
Plastic Package		1.0	W
Operating Ambient Temperature Range	T _A	0 to 70	$^\circ\text{C}$
Junction Temperature	T _J	150	$^\circ\text{C}$
Storage Temperature Range	T _{stg}	-65 to +150	$^\circ\text{C}$

* The maximum output current may be as high as 20 mA, independent of the magnitude of V_{CC}, output short circuits to V_{CC} can cause excessive heating and eventual destruction.

■ Electrical Characteristics ($V_{CC} = +5.0\text{ V}$, $T_A = 25^\circ\text{C}$, unless otherwise noted.)

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Input Offset Voltage *4	V_{IO}			± 2.0	± 5.0	mV
Input Bias Current *4,5	I_{IB}			25	250	nA
Input Offset Current *4	I_{IO}			± 5.0	± 50	nA
Input Common Mode Voltage Range	V_{ICMR}		0		$V_{CC}-1.5$	V
Supply Current	I_{CC}	$R_L = \infty$ (For All Comparators)		0.8	2.0	mA
		$R_L = \infty$, $V_{CC} = 30\text{ V}$		1.0	2.5	
Voltage Gain	A_{VOL}	$R_L \geq 15\text{ k}\Omega$, $V_{CC} = 15\text{ V}$	50	200		V/mV
Large Signal Response Time		$V_I = \text{TTL Logic Swing}$, $V_{ref} = 1.4\text{ V}$, $V_{RL} = 5.0\text{ V}$, $R_L = 5.1\text{ k}\Omega$		300		ns
Response Time *6		$V_{RL} = 5.0\text{ V}$, $R_L = 5.1\text{ k}\Omega$		1.3		$\mu\text{ s}$
Output Sink Current	I_{SINK}	$V_I(-) \geq +1.0\text{ V}$, $V_I(+)=0$, $V_O \leq 1.5\text{ V}$	6.0	16		mA
Saturation Voltage	V_{SAT}	$V_I(-) \geq +1.0\text{ V}$, $V_I(+)=0$, $I_{SINK} \leq 4.0\text{ mA}$		130	400	mV
Output Leakage Current	I_{OL}	$V_I(+)\geq +1.0\text{ V}$, $V_I(-)=0$, $V_O = +5.0\text{ V}$		0.1		nA

■ Performance Characteristics ($V_{CC}=+5.0\text{V}$, $0^\circ\text{C} \leq T_A \leq 70^\circ\text{C}$)

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Input Offset Voltage *4	V_{IO}				± 9.0	mV
Input Bias Current*4,5	I_{IB}				400	nA
Input Offset Current *4	I_{IO}				± 150	nA
Input Common Mode Voltage Range	V_{ICMR}		0		$V_{CC}-2.0$	V
Saturation Voltage	V_{SAT}	$V_I(-) \geq +1.0\text{ V}$, $V_I(+)=0$, $I_{SINK} \leq 4.0\text{ mA}$			700	mV
Output Leakage Current	I_{OL}	$V_I(+)\geq +1.0\text{ V}$, $V_I(-)=0$, $V_O = 30\text{ V}$			1.0	$\mu\text{ A}$
Differential Input Voltage	V_{ID}	All $V_I \geq 0\text{ V}$			V_{CC}	V

*4. At the output switch point, $V \approx 1.4\text{ V}$, $R_S \leq 100\ \Omega$, $5.0\text{ V} \leq V_{CC} \leq 30\text{ V}$, with the inputs over the full common mode range (0 V to $V_{CC} - 1.5\text{ V}$).

*5. The bias current flows out of the inputs due to the PNP input stage. This current is virtually constant, independent of the output state.

*6. The response time specified is for a 100 mV input step with 5.0 mV overdrive. For larger signals, 300 ns is typical.