μA1489, μA1489A
Electrical Characteristics

DC Characteristics V_{CC} = 5.0 V ± 1.0%, response control lead is open, T_A = 0°C to 70°C, unless otherwise specified.

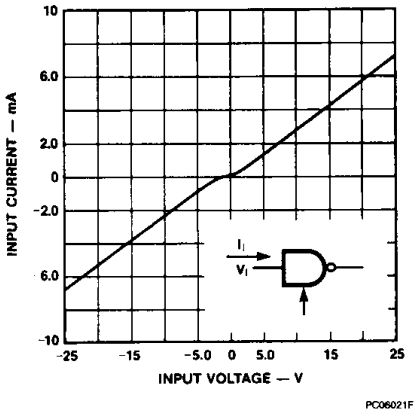
Symbol	Characteristic	Condition		Figure	Min	Typ	Max	Unit
I_{IH}	Input Current HIGH	V_{IH} = 25 V		1	3.6		8.3	mA
		V_{IH} = 3.0 V			0.43			
I_{IL}	Input Current LOW	V_{IL} = −25 V		1	−3.6		−8.3	mA
		V_{IL} = −3.0 V			−0.43			
V_{TH+}	Input Turn-on Threshold Voltage	T_A = 25°C, $V_{OL} \leq$ 0.45 V	μA1489	2	1.0		1.5	V
			μA1489A		1.75	1.95	2.25	
V_{TH-}	Input Turn-off Threshold Voltage	T_A = 25°C, $V_{OH} \geq$ 2.5 V, I_{OH} = −0.5 mA	μA1489	2	0.75		1.25	V
			μA1489A		0.75	0.8	1.25	
V_{OH}	Output Voltage HIGH	V_{IH} = 0.75 V, I_{OH} = −0.5 mA		2	2.6	4.0	5.0	V
		Input Open Circuit, I_{OH} = −0.5 mA						
V_{OL}	Output Voltage LOW	V_{IL} = 3.0 V, I_{OL} = 10 mA		2		0.2	0.45	V
I_{OS}	Output Short Circuit Current			3		3.0		mA
I_{CC}	Supply Current	V_{IH} = 5.0 V		4		20	26	mA
P_C	Power Consumption	V_{IH} = 5.0 V		4		100	130	mW

AC Characteristics V_{CC} = 5.0 V ± 1.0%, T_A = 25°C

Symbol	Characteristic	Condition	Figure	Min	Typ	Max	Unit
t_{PLH}	Propagation Delay Time	R_L = 3.9 kΩ	5		25	85	ns
t_{PHL}		R_L = 390 Ω			25	50	ns
t_r	Rise Time	R_L = 3.9 kΩ	5		120	175	ns
t_f	Fall Time	R_L = 390 Ω			10	20	ns

Typical Performance Curves

Input Current vs Input Voltage



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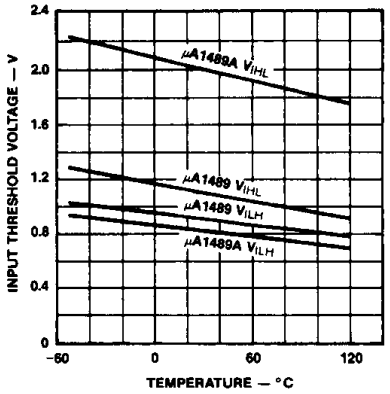
Input Threshold Voltage vs Temperature



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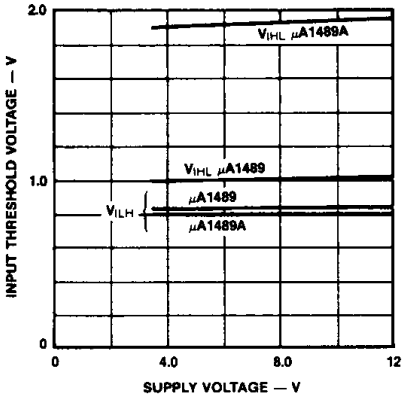
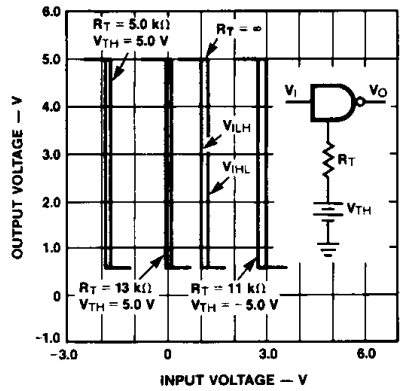
Input Threshold Voltage vs Supply Voltage



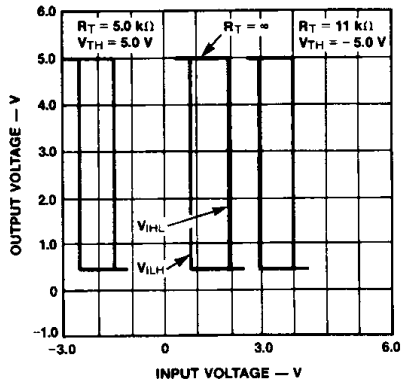
PC06041F

μA1489 Input Threshold Voltage Adjustment



PC06051F

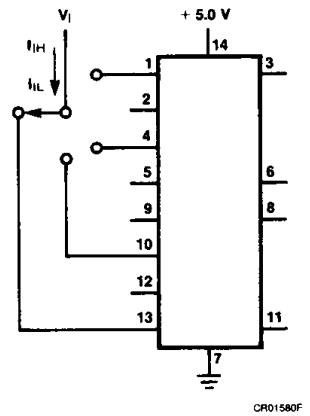
μA1489A Input Threshold Voltage Adjustment



PC06061F

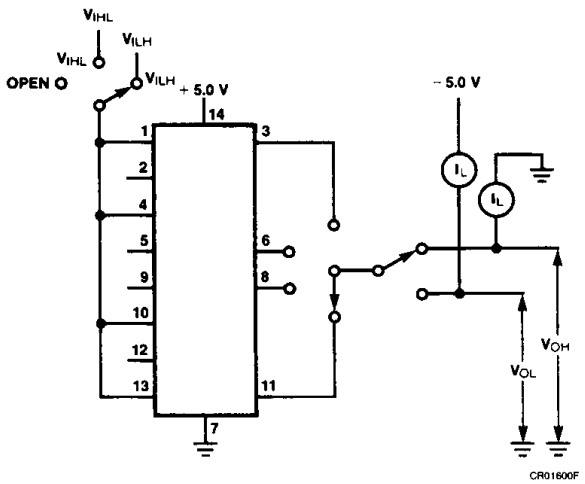
Test Circuits

Figure 1 Input Current



CR01580F

Figure 2 Output Voltage and Input Threshold Voltage



CR01600F

Test Circuits (Cont.)

Figure 3 Output Short Circuit Current

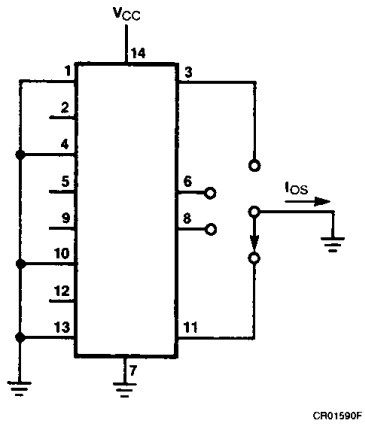


Figure 4 Supply Current

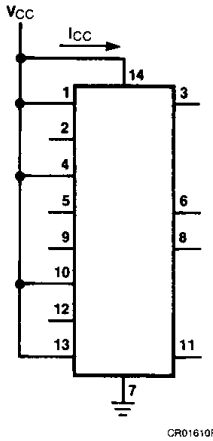
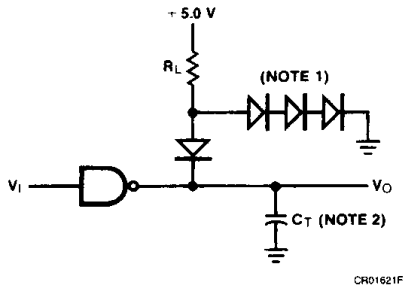


Figure 5 AC Test Circuit and Voltage Waveforms



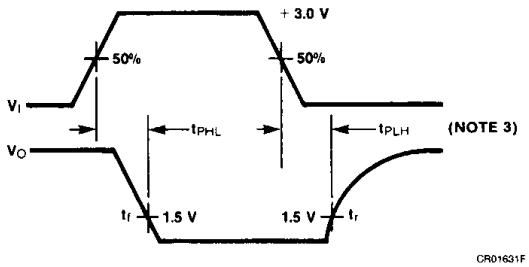
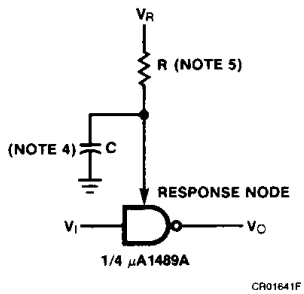


Figure 6 Response Control Node



Notes

1. All diodes FD600 or equivalent.
2. C_T = 15 pF = total parasitic capacitance, which includes probe and jig capacitance.
3. t_r and t_f measured 10% to 90%.
4. Capacitor is for noise filtering.
5. Resistor is for threshold shifting.