

μA1489, μA1489A
Electrical Characteristics

DC Characteristics $V_{CC} = 5.0 \text{ V} \pm 1.0\%$, response control lead is open, $T_A = 0^\circ\text{C}$ to 70°C , unless otherwise specified.

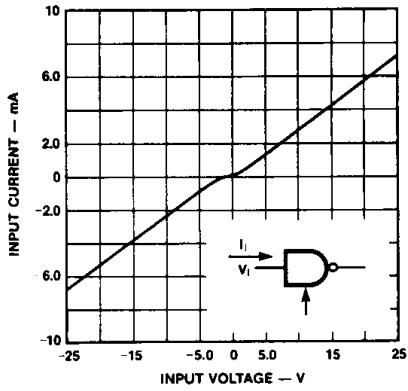
Symbol	Characteristic	Condition	Figure	Min	Typ	Max	Unit	
I_{IH}	Input Current HIGH	$V_{IH} = 25 \text{ V}$	1	3.6		8.3	mA	
		$V_{IH} = 3.0 \text{ V}$		0.43				
I_{IL}	Input Current LOW	$V_{IL} = -25 \text{ V}$	1	-3.6		-8.3	mA	
		$V_{IL} = -3.0 \text{ V}$		-0.43				
V_{TH+}	Input Turn-on Threshold Voltage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

AC Characteristics $V_{CC} = 5.0 \text{ V} \pm 1.0\%$, $T_A = 25^\circ\text{C}$

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

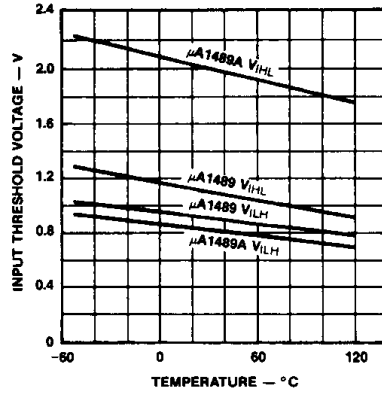
Typical Performance Curves

Input Current vs Input Voltage



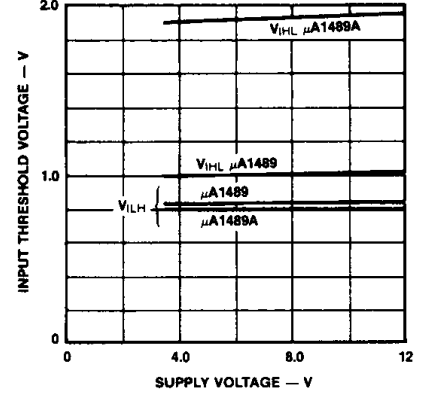
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Input Threshold Voltage vs Temperature



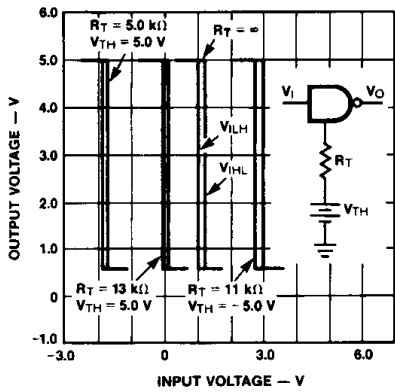
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Input Threshold Voltage vs Supply Voltage



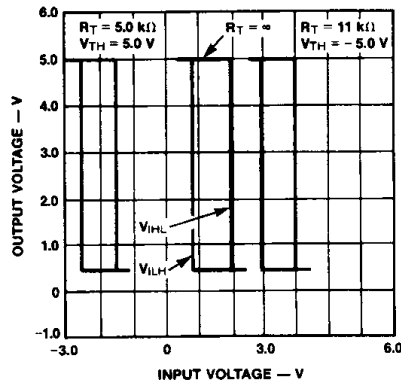
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μA1489 Input Threshold Voltage Adjustment



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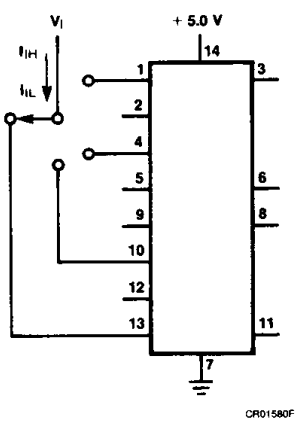
μA1489A Input Threshold Voltage Adjustment



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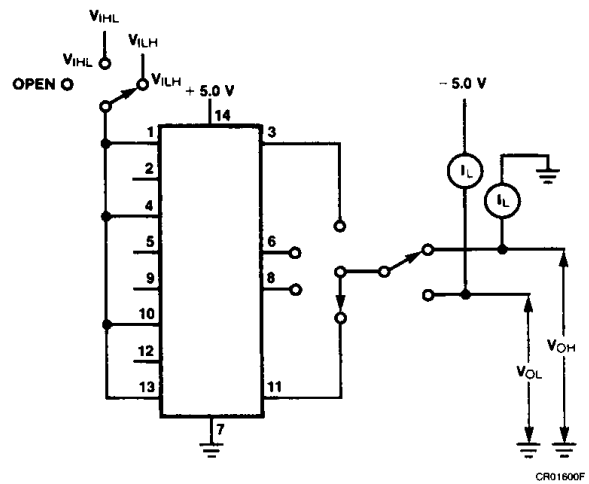
Test Circuits

Figure 1 Input Current



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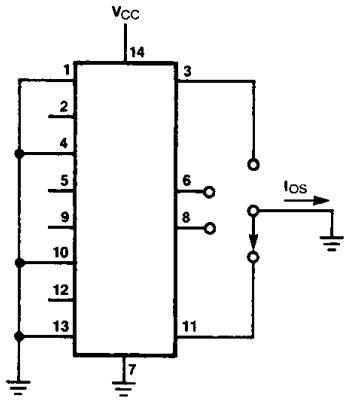
Figure 2 Output Voltage and Input Threshold Voltage



CR01600F

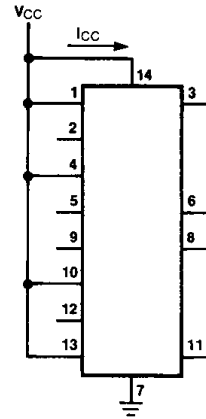
Test Circuits (Cont.)

Figure 3 Output Short Circuit Current



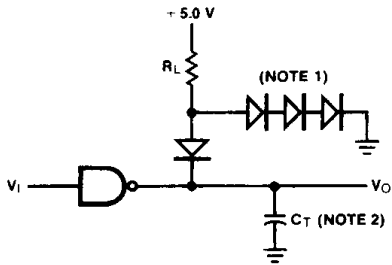
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Figure 4 Supply Current

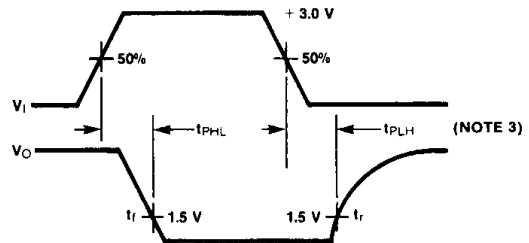


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Figure 5 AC Test Circuit and Voltage Waveforms

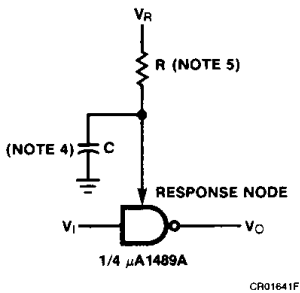


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Figure 6 Response Control Node



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Notes

1. All diodes FD600 or equivalent.
2. $C_T = 15 \text{ pF}$ = 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.