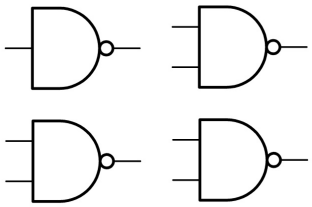
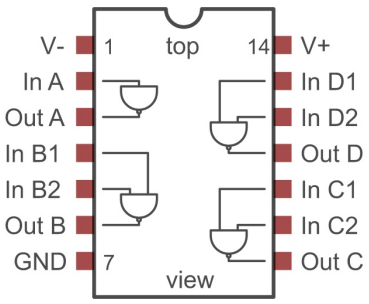
Datasheet

µA1488

The uA1488 is an EIA RS-232C specified quad line driver. The device is used to interface data terminals with data communications equipment. The µA1488 is a lead-for-lead replacement for the MC1488.



- **Current Limited Output - ±10mA Typical**
- **Power-Off Source Impedance 300Ω Minimum**
- **Simple Slew Rate Control With External Capacitor**
- **Flexible Operating Supply Range**



Absolute Maximum Ratings

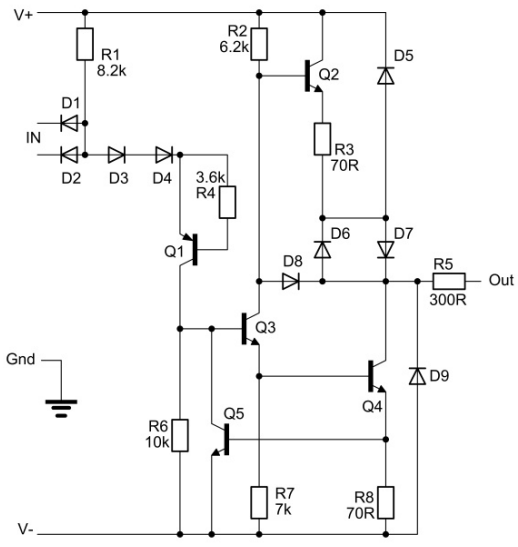
Storage Temperatur Range	
Ceramic DIP-14	-65°C to +175°C
Molded DIP-14 and SO-14	-65°C to +150°C
Operating Temperature Range	0°C to +70°C
Lead Temperature	
Ceramic DIP (soldering 60s)	300°C
Molded DIP and SO-14 (soldering 10s)	265°C
Internal Power Dissipation[1,2]	
14L-Ceramic DIP	1.36W
14L-Molded DIP	1.04W
SO-14	0.93W
Supply Voltage	±15V
Input Voltage Range	-15V to +7.0V
Output Signal Voltage	±15V

Note:

1 $T_{J\,MAX}$ = 175°C for the Ceramic DIP, and 150°C for the Molded DIP and SO-14

2 Ratings apply to ambient temperature 25°C. Above this temperature, derate the 14L-Ceramic DIP at 9.1mW / °C, the 14L-Molded DIP at 8.3mW / °C, and the SO-14 at 7.5mW / °C

Equivalent Circuit
(1/4 of Circuit)



µA1488
Electrical Characteristics

DC Characteristics V_{CC} = ±9V ±1%, T_A = 0°C to 70°C, unless otherwise specified

Symbol	Characteristics	Condition	Figure	Min	Typ	Max	Unit
I_{IL}	Input Current LOW	V_{IL} = 0V	1		1.0	1.6	mA
I_{IH}	Input Current HIGH	V_{IH} = 5V	1			10	µA
V_{OH}	Output Voltage HIGH	V_{IL} = 0.8V, R_L = 3.0kΩ, V_{CC}= ±9V	2	6.0	7.0		V
		V_{IL} = 0.8V, R_L = 3.0kΩ, V_{CC}= ±12.2V		9.0	10.5		
V_{OL}	Output Voltage LOW	V_{IH} = 1.9V, R_L = 3.0kΩ, V_{CC}= ±9V	2	-6.0	-7.0		V
		V_{IH} = 1.9V, R_L = 3.0kΩ, V_{CC}= ±13.2V		-9.0	-10.5		
I_{OS+}	Positive Output Short Circuit Current[1]	V_{IL} = 0.8V	3	-6.0	-10	-12	mA
I_{OS-}	Negative Output Short Circuit Current[1]	V_{IH} = 1.9V	3	+6.0	+10	+12	mA
R_O	Output Resistance	V_{CC} = 0V, V_O = ±2.0V	4	300			Ω
I+	Positive Supply Current	RL = ∞ V_{IH} = 1.9V, V+ = 9.0V	5		15	20	mA
		V_{IL} = 0.8V, V+ = 9.0V			4.5	6.0	
		V_{IH} = 1.9V, V+ = 12V			19	25	
		V_{IL} = 0.8V, V+ = 12V			5.5	7.0	
		V_{IH} = 1.9V, V+ = 15V				34	
		V_{IL} = 0.8V, V+ = 15V				12	
I-	Negative Supply Current	RL = ∞ V_{IH} = 1.9V, V- = -9.0V	5		-13	-17	mA
		V_{IL} = 0.8V, V- = -9.0V				-15	
		V_{IH} = 1.9V, V- = -12V			-18	-23	
		V_{IL} = 0.8V, V- = -12V				-15	
		V_{IH} = 1.9V, V- = -15V				-34	
		V_{IL} = 0.8V, V- = -15V				-2.5	
P_C	Power Consumption	V_{CC} = ±9.0V				333	mW
		V_{CC} = ±12V				576	

Note 1: Maximum package power dissipation may be exceeded if all outputs are shorted simultaneously.

µA1488
Electrical Characteristics
AC Characteristics V_{CC} = ±9V ±1%, T_A = 25°C

Symbol	Characteristics	Condition	Figure	Min	Typ	Max	Unit
t_{PLH}	Propagation Delay Time	R_L=3.0kΩ, C_L=15pF	6		220	350	nS
t_{PLH}					70	175	
t_f	Fall Time	R_L=3.0kΩ, C_L=15pF	6		70	75	nS
t_r	Rise Time				55	100	

Figure 1 Input Current

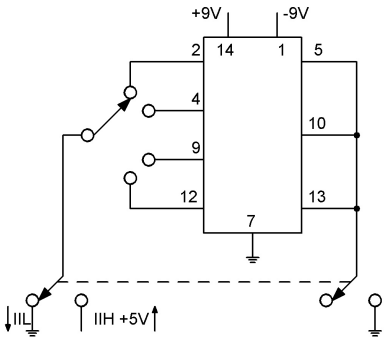


Figure 2 Output Voltage

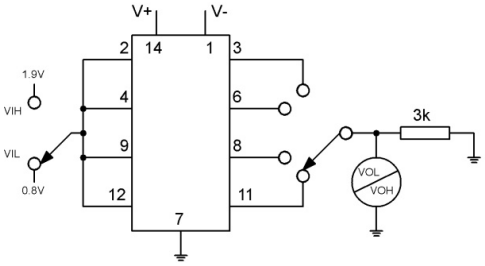


Figure 3 Output Short Circuit Current

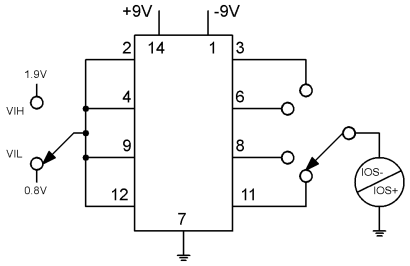


Figure 4 Output Resistance (Power Off)

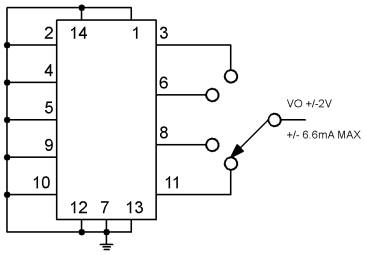


Figure 5 Supply Currents

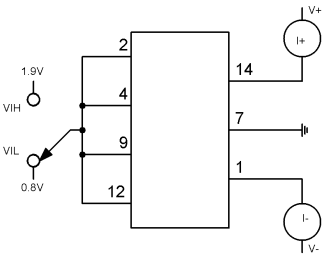


Figure 6 AC Test Circuit and Voltage Waveforms