

- Quad 2, 2, 3, 3-Input (Active Pullup)
- Quad 2, 2, 3, 3-Input (Open Collector)

Features

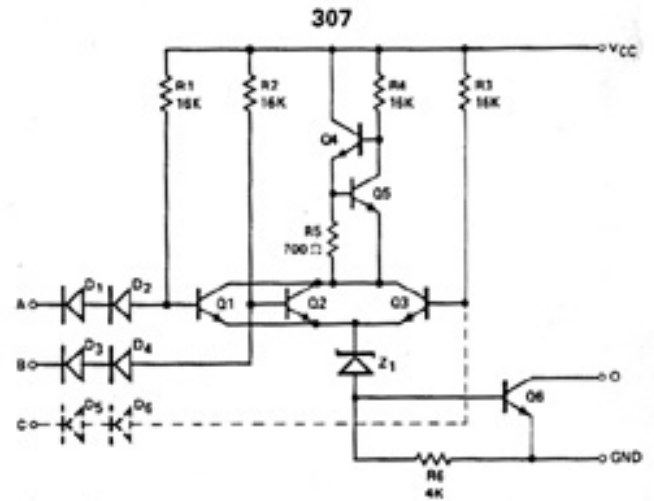
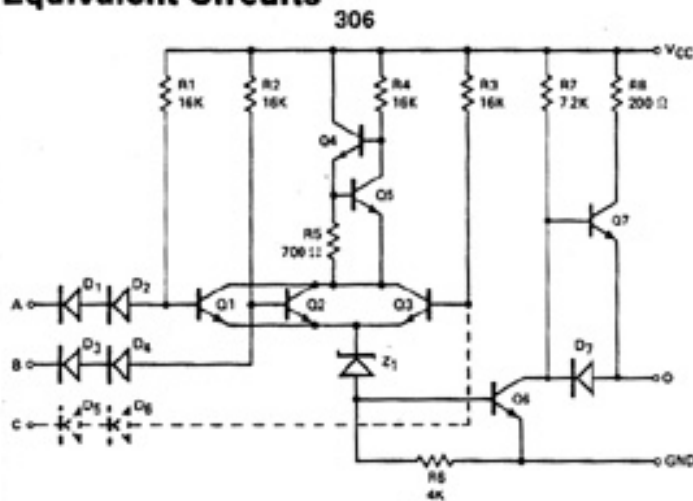
Versatile Configuration

Active Pullup Outputs (306)

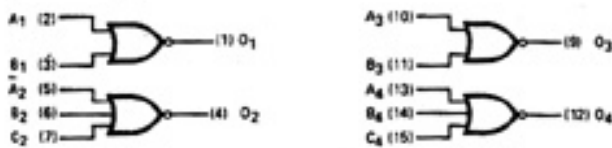
Open Collector Outputs (307) – Collector OR'able

$I_{OHL} = 10\text{mA}$ (306) – drives lines up to 10 feet

Equivalent Circuits



Logic Diagrams



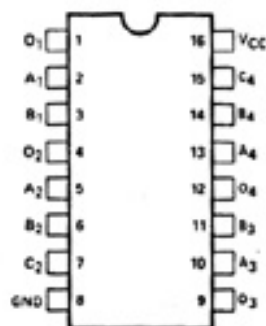
Loading Table

Pins	Function	Loading
A, B, C	Input	1 UL
O	Outputs	10 UL (306) 10 UL (307 with 5.6KΩ pullup resistor)

Connection Diagrams

Order Part Numbers:
306AL/CL, 307AL/CL
($V_{CC} = 10\text{V to }16\text{V}$,
 $-30^{\circ}\text{C} \leq T_A \leq +70^{\circ}\text{C}$)

L Package
16 Lead Ceramic DIP



Absolute Maximum Ratings

L Package	
Continuous Supply Voltage	16.5V
Pulsed Supply Voltage (less than 100 ms)	18.0V
Input Voltage (any input)	-0.5 to +18V
Surge Sink Current (less than 100 ms at 25°C T _A)	35 mA
Storage Temperature	-65°C to +150°C
Lead Temperature (1/16 inch from case, 10 sec max)	300°C

Electrical Characteristics (Operating V_{CC} range = 10V to 16V, -30°C ≤ T_A ≤ +70°C)

Parameter	Definition	Limits			Units	Conditions
		@ V _{CC} = 10V	@ V _{CC} = 13V	@ V _{CC} = 16V		
V _{INL}	Input Threshold Voltage, Low	5.0	5.0	5.0	V min.	
V _{INH}	Input Threshold Voltage, High	6.5	6.5	6.5	V max.	
I _{INL}	Input Current, Low	-1.0	-1.3	-1.6	mA max.	V _{IN} = 1.5V
V _{OL}	Output Low Voltage	1.5	1.5	1.5	V max.	I _{OL} = 16 mA, V _{IN} = 6.5V I _{OL} = 21 mA, V _{IN} = 6.5V I _{OL} = 26 mA, V _{IN} = 6.5V
V _{OL2} (307)	Output Low Voltage, Driving TTL	400	400	400	mV max.	I _{OL} = 10 mA, V _{IN} = 6.5V
V _{OH} (306)	Output High Voltage	9	12	15	V min.	I _{OH} = -100μA, V _{IN} = 5.0V
V _{OHL} (306)	Output High Voltage, Loaded	5	8	11	V min.	I _{OH} = -10 mA, V _{IN} = 5.0V
V _{MAX} (307)	Output High Break-down Voltage	16.5	16.5	16.5	V min.	I _{MAX} = 4 mA, V _{IN} = 5.0V
I _{CEX} (307)	Output High Leakage Current	25	25	25	μA max.	V _{CEX} = 16V, V _{IN} = 5.0V
I _{CC} (306) (307)	Supply Current	28 18	34 23	40 28	mA max.	V _{IN} = 6.5V, one input per gate; V _{IN} = 1.5V, all other inputs
t _{PDHL}	Propagation Delay, Output High to Low Transition	100	100	100	nsec max.	Input pulse = 10V, t _r = t _f ≤ 10 nsec F.O. = 0 to 10, 50% to 50% (5.6K pullup resistor on 307)
t _{PDLH}	Propagation Delay, Output Low to High Transition	600	600	600	nsec max.	Input pulse = 10V, t _r = t _f ≤ 10 nsec F.O. = 0 to 10, 50% to 50% (5.6K pullup resistor on 307)

Note: Exceeding the absolute maximum ratings may cause permanent damage. Function of HiNIL devices at the absolute maximum ratings or beyond the conditions guaranteed is not implied.