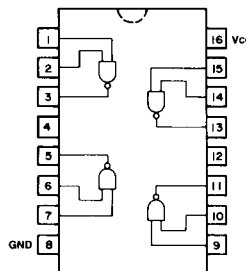


Quad 2-Input Buffer NAND Gate (Open Collector)

The 41CA(M) device is a bipolar, NPN, sealed junction, silicon integrated circuit. It is available in a wire-bonded, 16-pin plastic DIP. The open-collector outputs can sink a maximum of 35 mA and have a minimum breakdown voltage of 15 V in the off state.



Electrical Characteristics

$V_{CC} = 5.0 \pm 0.5$ V, $T_J = 0$ to 85°C

Parameter	Symbol	Test Conditions	MTTL Family			Unit
			Min	Typ	Max	
Output Voltage Low	V_{OL}	$V_{CC} = 4.5$ V, $I_{OL} = 35$ mA	—	0.35	0.5	V
Input Voltage High	V_{IH}	—	1.8	—	—	V
Input Voltage Low	V_{IL}	—	—	—	0.8	V
Input Voltage Clamp	V_{IK}	$I_{IK} = -5$ mA	—	—	-1.5	V
Input Current High, $V_{IH} = 2.4$ V	I_{IH}	$V_{CC} = 5.5$ V Pins 7,15 Pins 1,2,6,9,10,14	—	—	40	μA
Input Current High, $V_{IH} = 5.5$ V	I_{IH}	$V_{CC} = 5.5$ V Pins 7,15 Pins 1,2,6,9,10,14	—	—	200	μA
Input Current Low	I_{IL}	$V_{CC} = 5.5$ V, $V_{IL} = 0.4$ V	—	—	-0.98	mA
Output Current Leakage, $V_{OH} = 6.5$ V	I_{OH}	$V_{CC} = 5.5$ V, $V_{IL} = 0.7$ V	—	—	250	μA
Power Supply Current Outputs Low	I_{CCL}	$V_{CC} = 5.5$ V	—	—	32	mA
Power Supply Current Outputs High	I_{CCH}	$V_{CC} = 5.5$ V	—	—	4.4	mA

Timing Characteristics

$V_{CC} = 5.0$ V, $T_J = 25^\circ\text{C}$

Parameter	MTTL Family			Unit
	Min	Typ	Max	
Propagation Delays t_{PLH}	—	—	26	ns
Propagation Delays t_{PHL}	—	—	18	ns
Transition Times t_{THL}	—	—	12	ns

Maximum Ratings

Power supply voltage (V_{CC}) 7.0 V
 Input voltage (V_I) 5.5 V
 Operating temperature range (T_J) -25 to $+125^\circ\text{C}$
 Storage temperature range (T_{stg}) -40 to $+125^\circ\text{C}$

Maximum ratings are defined as the limiting conditions that the user can apply to the device under all variations of circuit and environmental conditions. If any rating is exceeded, permanent damage to the device may result.

Bonding or soldering of the external leads of this device can be performed safely at temperatures up to 300°C .