



U74HCT3G06

CMOS IC

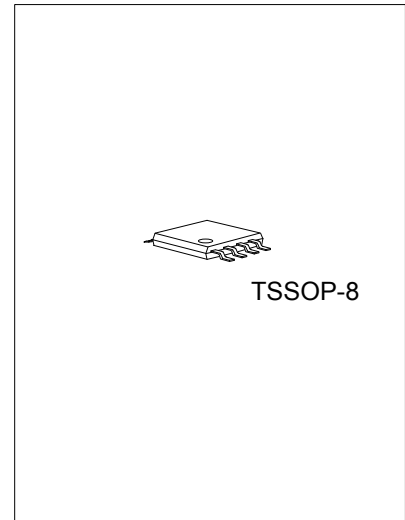
INVERTER WITH OPEN-DRAIN OUTPUTS

DESCRIPTION

The **U74HCT3G06** provides three inverters with open-drain outputs, it is compatible with TTL.

FEATURES

- * Low power dissipation
- * High speed
- * High noise immunity

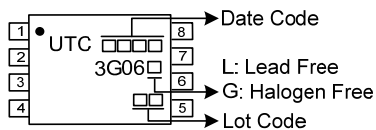


ORDERING INFORMATION

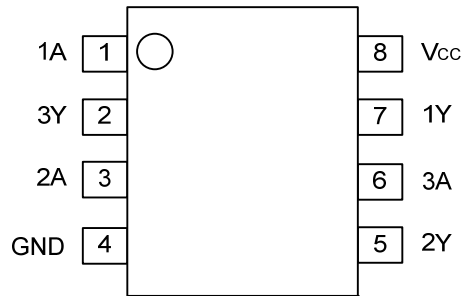
Ordering Number		Package	Packing
Lead Free	Halogen Free		
U74HCT3G06L-P08-R	U74HCT3G06G-P08-R	TSSOP-8	Tape Reel

<p>U74HCT3G06G-P08-R</p> <p>(1) Packing Type (2) Package Type (3) Green Package</p>	<p>(1) R: Tape Reel (2) P08: TSSOP-8 (3) G: Halogen Free and Lead Free, L: Lead Free</p>
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MARKING



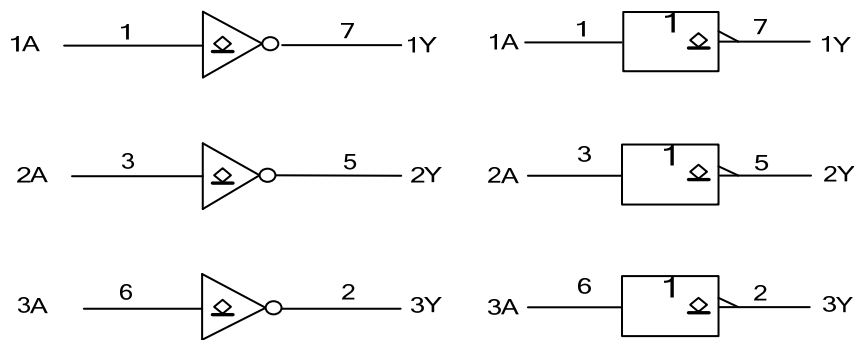
■ PIN CONFIGURATION



■ FUNCTION TABLE (each gate)

INPUT(A)	OUTPUT(Y)
L	Z
H	L

■ LOGIC DIAGRAM (positive logic)



■ ABSOLUTE MAXIMUM RATINGS (T_A=25°C, unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V _{CC}	-0.5 ~ 7	V
Output Voltage	V _{OUT}	-0.5 ~ V _{CC} +0.5 (active mode)	V
		-0.5 ~ 7.0 (high-impedance mode)	
V _{CC} or GND Current	I _{CC}	±50	mA
Input Clamp Current	I _{IK}	±20	mA
Output Clamp Current	I _{OK}	-20	mA
Output Current	I _{OUT}	25	mA
Power Dissipation	P _D	300	mW
Storage Temperature	T _{STG}	-65 ~ +150	°C

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ RECOMMENDED OPERATING CONDITIONS

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Supply Voltage	V _{CC}		4.5	5.0	5.5	V
Input Voltage	V _{IN}		0		5.5	V
Output Voltage	V _{OUT}		0		V _{CC}	V
Input Rise and Fall Times	t _R , t _F	V _{CC} =4.5V		6.0	500	ns
Operating Temperature	T _A		-40	+25	+125	°C

■ STATIC CHARACTERISTICS (T_A=25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
High-Level Input Voltage	V _{IH}	V _{CC} = 4.5V~5.5V	2.0	1.6		V
Low-Level Input Voltage	V _{IL}	V _{CC} = 4.5V~5.5V		1.2	0.8	V
Low-Level Output Voltage	V _{OL}	V _{CC} = 4.5V, I _{OL} =20μA		0	0.1	V
		V _{CC} = 4.5V, I _{OL} =4.0mA		0.15	0.33	V
Input Leakage Current	I _{I(LEAK)}	V _{CC} = 5.5V, V _{IN} =V _{CC} or GND			±1.0	μA
Output Leakage Current	I _{O(LEAK)}	V _{CC} =5.5V, V _{IN} =V _{IH} , V _{OUT} =V _{CC} or GND			±5.0	μA
Quiescent Supply Current	I _Q	V _{CC} = 5.5V, V _{IN} =V _{CC} or GND, I _{OUT} =0			10	μA
Additional Quiescent Supply Current	Δ I _Q	V _{CC} =4.5V to 5.5V, V _{IN} =V _{CC} -2.1V, I _{OUT} =0			375	μA
Input Capacitance	C _{IN}			1.5		pF

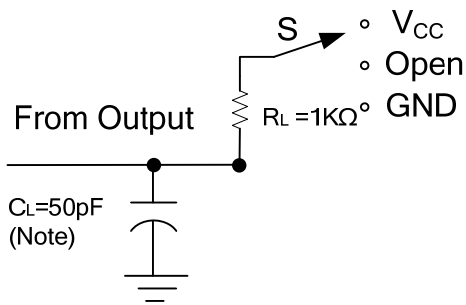
■ DYNAMIC CHARACTERISTICS (T_A=25°C, t_R, t_F≤6.0ns)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Propagation Delay From nA to nY	t _{PZL}	V _{CC} =4.5V, C _L = 50 pF		9	24	ns
	t _{PLZ}	V _{CC} =4.5V, C _L = 50 pF		12	27	ns
Output Transition Time	t _{THL}	V _{CC} =4.5V, C _L = 50 pF		6	19	ns

■ OPERATING CHARACTERISTICS

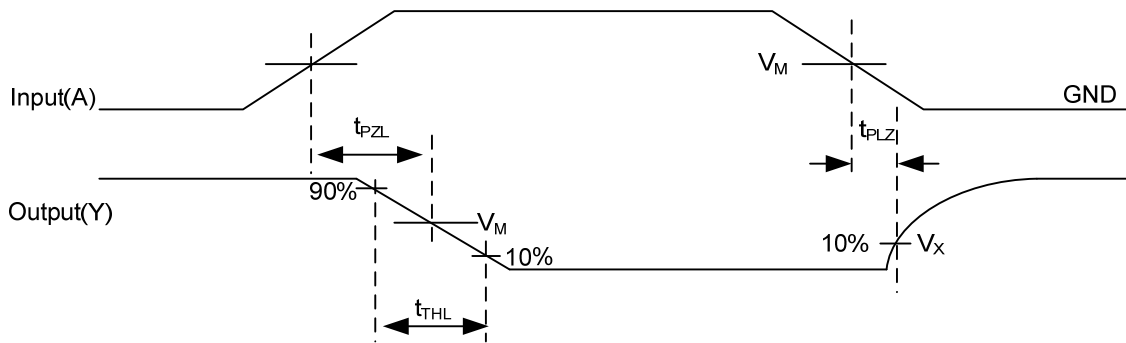
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Power Dissipation Capacitance	C _{PD}			4		pF

■ TEST CIRCUIT AND WAVEFORMS



TEST	S
t_{PLH}/t_{PHL}	V_{CC}
t_{PLZ}/t_{PZL}	V_{CC}

Note : C_L includes probe and jig capacitance.



$V_M=1.3V$, Input=GND to 3.0V, $V_X=10\%*V_{CC}$

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