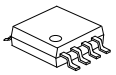
U74HCT3G07

CMOS IC

BUFFER WITH OPEN-DRAIN OUTPUTS



MSOP-8

TSSOP-8

*Pb-free plating product number:
U74HCT3G07L

■ DESCRIPTION

The **U74HCT3G07** provides three buffers with open-drain outputs, it is compatible with TTL.

■ FEATURES

* Low power dissipation
* High speed
* High noise immunity

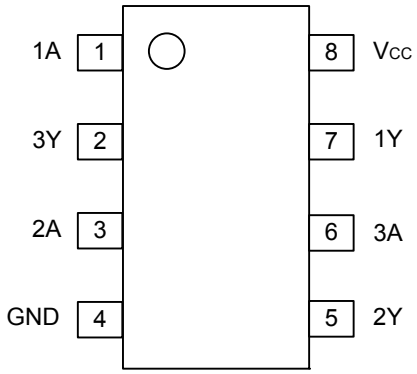
■ ORDERING INFORMATION

Ordering Number		Package	Packing
Normal	Lead Free Plating		
U74HCT3G07-P08-R	U74HCT3G07L-P08-R	TSSOP-8	Tape Reel
U74HCT3G07-P08-T	U74HCT3G07L-P08-T	TSSOP-8	Tube
U74HCT3G07-SM1-R	U74HCT3G07L-SM1-R	MSOP-8	Tape Reel
U74HCT3G07-SM1-T	U74HCT3G07L-SM1-T	MSOP-8	Tube

U74HCT3G07L-P08-R
(1)Packing Type
(2)Package Type
(3)Lead Plating

(1) R: Tape Reel, T: Tube
(2) P08: TSSOP-8, SM1: MSOP-8
(3) L: Lead Free Plating, Blank: Pb/Sn

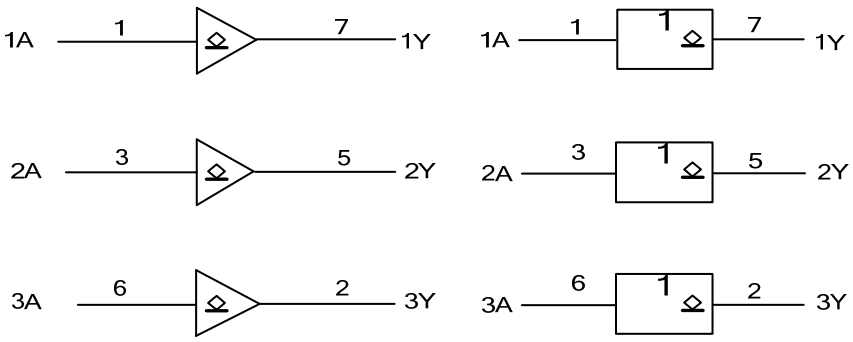
■ PIN CONFIGURATION



■ FUNCTION TABLE (each gate)

INPUT	OUTPUT
nA	nY
L	L
H	Z

■ LOGIC DIAGRAM (positive logic)



IEC logic symbol

■ ABSOLUTE MAXIMUM RATINGS (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
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	℃

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	℃

■ STATIC CHARACTERISTICS (T_A=25℃)

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 OFF-State Current	I_{OZ}	V_{CC}= 5.5V, V_{IN}=V_{IH} or V_{IL}; 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	ΔI_Q	V_{CC}= 4.5V~5.5V, V_{IN}=V_{CC} -2.1V; I_{OUT}=0			375	μA
Input Capacitance	C_{IN}			1.5		pF

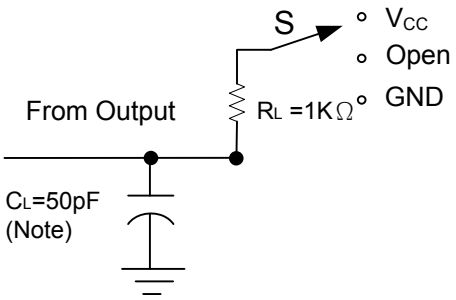
■ DYNAMIC CHARACTERISTICS (T_A=25℃, t_R, t_F≤6.0ns)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Propagation Delay From nA to nY	t_{PZL}	V_{CC}=4.5V, C_L= 50 pF		11	27	ns
	t_{PLZ}	V_{CC}=4.5V, C_L= 50 pF		10	26	ns
Output Transition Time	t_{THL}	V_{CC}=4.5V, C_L= 50 pF		6	19	ns

■ OPERATING CHARACTERISTICS

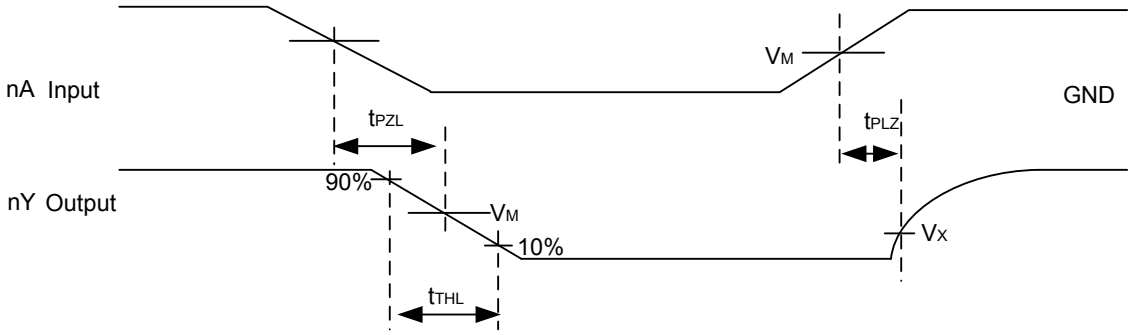
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Power Dissipation Capacitance	Cpd			4		pF

■ TEST CIRCUIT AND WAVEFORMS



TEST	S
t_{PLH}/t_{PHL}	Open
t_{PHZ}/t_{PZH}	GND
t_{PLZ}/t_{PZL}	V_{CC}

Note: C_L includes probe and jig capacitance.



V_X=0.1XV_{CC}
V_M=1.3V; Input=GND to3.0V