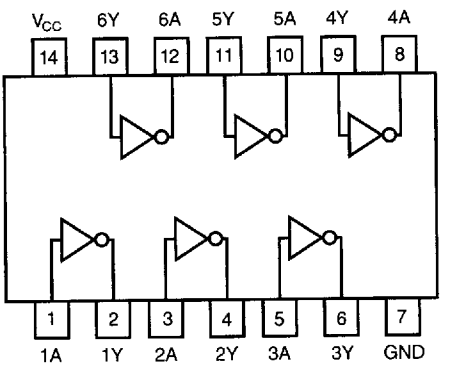
PRELIMINARY
DATA SHEET

GD74F04
HEX INVERTER

Description
The GD74F04 contains 6 logic inverters which accept standard TTL input signal and standard TTL output level. They have a greater noise margin than conventional inverters.

Pin Configuration

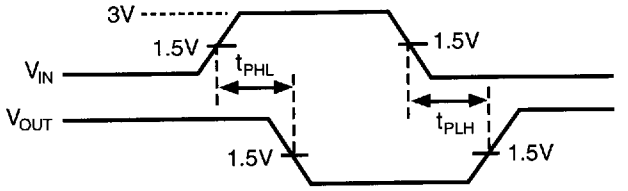


Package Type: 14 DIP, 14 SOP Available

Function Table (each inverter)

Inputs	Outputs
L	H
H	L

Waveform Of Functions



Input Condition
Frequency : 1.0 MHZ
Duty Cycle : 50%
Rising Time : 2.5 ns
Falling Time : 2.5 ns
Amplitude : 0 to 3V

Absolute Maximum Ratings
- Storage Temperature ..... −65°C to 150°C
- Ambient Temperature Under Bias ..... −55°C to 125°C
- Juction Temperature Under Bias ..... −55°C to 175°C
- V_{CC} Voltage ..... −0.5 V to 7.0 V
- Input Voltage ..... −5.0 V to 7.0 V
- Input Current ..... −30 mA to 5.0 mA
- Output Voltage ..... −0.5 V to V_{cc}

Note: Absolute Maximum ratings are values beyond which the device may be damaged or have its useful life impaired. Functional operation under these conditions is not implied.

Recommended Operating Conditions

SYMBOL	PARAMETER	MIN	MAX	UNIT
T_{AA}	Free Air Ambient Temperature	0°	70°	°C
V_{CC}	Supply Voltage	4.5	5.5	V

AC Characteristics

SYMBOL	PARAMETER	TEST CONDITIONS						UNIT
		TA = 25°C V_{CC} = 5.0 V C_L = 50 pF			TA = 0°C to 70°C V_{CC} = 5 V +10% C_L = 50 pF			
		Min	Typ	Max	Min	Typ	Max	
t_{PLH}	Propogation	2.4	3.7	5.0	2.4	—	6.0	ns
t_{PHL}	Delay	1.5	3.2	4.3	1.5	—	5.3	ns

DC Electrical Characteristics over recommended operating free-air temperature range

SYMBOL	PARAMETER	TEST CONDITION	MIN	TYP	MAX	UNIT
V_{IH}	Input High Voltage	————	2.0			V
V_{IL}	Input Low Voltage	————			0.8	V
V_{CD}	Input Clamp Diode Voltage	V_{CC} = Min, I_{IN} = −18 mA			−1.2	V
V_{OH}	Output High Voltage	V_{CC} = 4.5 V, I_{OH} = 1 mA	2.5			V
		V_{CC} = 4.75 V, I_{OH} = 1 mA	2.7			
V_{OL}	Output Low Voltage	V_{CC} = Min, I_{OL} = 20mA			0.5	V
I_I	Input High Breakdown	V_{CC} = Max, V_I = 7.0 V			7.0	µA
I_{IH}	Input High Current	V_{CC} = Max, V_I = 2.7 V			5.0	µA
I_{IL}	Input Low Current	V_{CC} = Max, V_I = 0.5 V			−0.6	mA
I_{ILK}	Input Leakage Circuit Current	V_{II} = 4.75 V All other pins grounded			1.9	µA
I_{OLK}	Output Leakage Circuit Current	V_{IC} = 150 mA All other pins grounded			3.75	µA
I_{OS}	Output Short Current	V_{CC} = Max, V_O = 0 V	−60		−150	mA
I_{CCH}	Supply Current	V_{CC} = Max, V_I = Gnd.		2.8	4.2	mA
I_{CCL}	Supply Current	V_{CC} = Max, V_I = Open		10.2	15.3	mA