

Signetics

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Status	Product Specification
FAST Products	

FAST 74F86

Gate

Quad 2-Input Exclusive-OR Gate

FEATURE

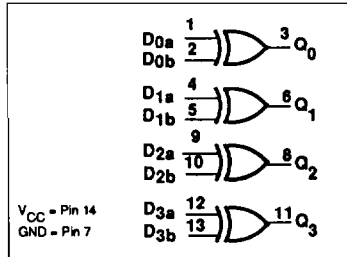
- Industrial temperature range available (-40°C to +85°C)

FUNCTION TABLE

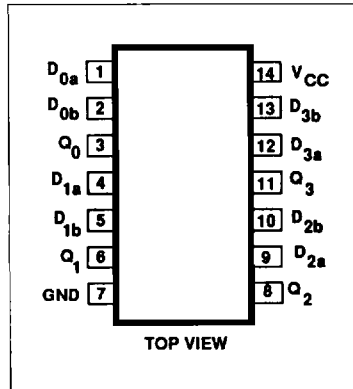
INPUTS		OUTPUT
D _{na}	D _{nb}	Q _n
L	L	L
L	H	H
H	L	H
H	H	L

H = High voltage level
L = Low voltage level

LOGIC DIAGRAM



PIN CONFIGURATION



TYPE	TYPICAL PROPAGATION DELAY	TYPICAL SUPPLY CURRENT (TOTAL)
74F86	4.3 ns	16.5 mA

ORDERING INFORMATION

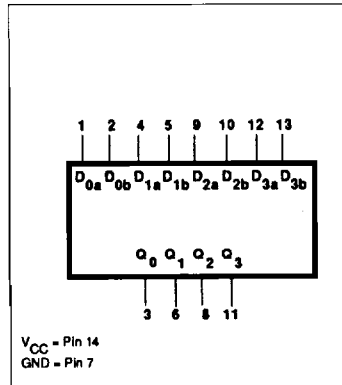
PACKAGES	COMMERCIAL RANGE V _{CC} = 5V±10% T _A = 0°C to +70°C	INDUSTRIAL RANGE V _{CC} = 5V±10% T _A = -40°C to +85°C
14-Pin Plastic DIP	N74F86N	174F86N
14-Pin Plastic SO	N74F86D	174F86D

INPUT AND OUTPUT LOADING AND FAN-OUT TABLE

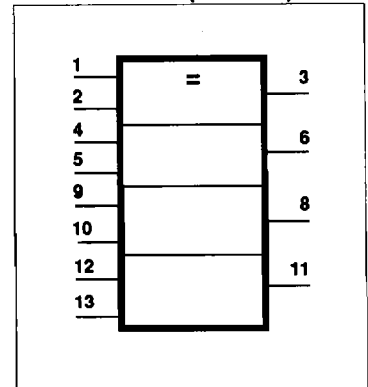
PINS	DESCRIPTION	74F(U.L.) HIGH/LOW	LOAD VALUE HIGH/LOW
D _{na} , D _{nb}	Data inputs	1.0/1.0	20µA/0.6mA
Q _n	Data output	50/33	1.0mA/20mA

NOTE:
One (1.0) FAST Unit Load is defined as: 20µA in the High state and 0.6mA in the Low state.

LOGIC SYMBOL



LOGIC SYMBOL (IEEE/IEC)



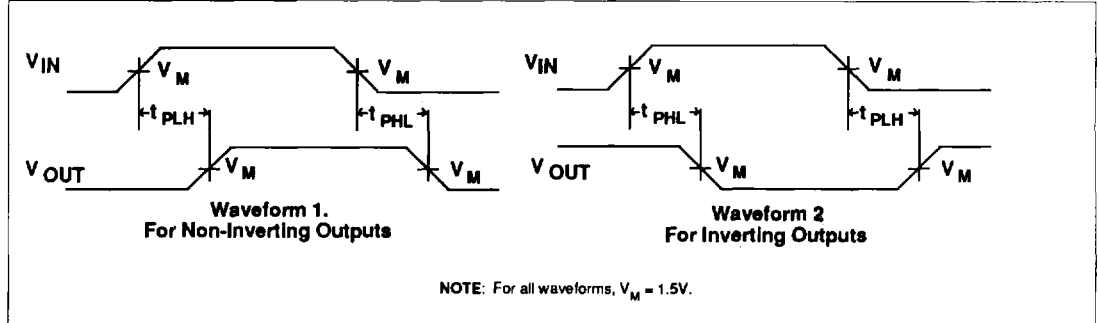
Gate

FAST 74F86

AC ELECTRICAL CHARACTERISTICS

SYMBOL	PARAMETER	TEST CONDITION	LIMITS						UNIT	
			$T_A = +25^\circ\text{C}$			$T_A = 0^\circ\text{C to } +70^\circ\text{C}$		$T_A = -40^\circ\text{C to } +85^\circ\text{C}$		
			Min	Typ	Max	Min	Max	Min		Max
t_{PLH} t_{PHL}	Propagation delay D_{na} or D_{nb} to Q_n (Other input Low)	Waveform 1	3.0	4.0	5.5	3.0	6.5	3.0	7.0	ns
t_{PLH} t_{PHL}	Propagation delay D_{na} or D_{nb} to Q_n (Other input High)	Waveform 2	3.0	4.2	5.5	3.0	6.5	2.5	8.0	
			3.5	5.3	7.0	3.5	8.0	3.5	10.0	ns
			3.0	4.7	6.5	3.0	7.5	3.0	8.0	

AC WAVEFORMS



TEST CIRCUIT AND WAVEFORMS

