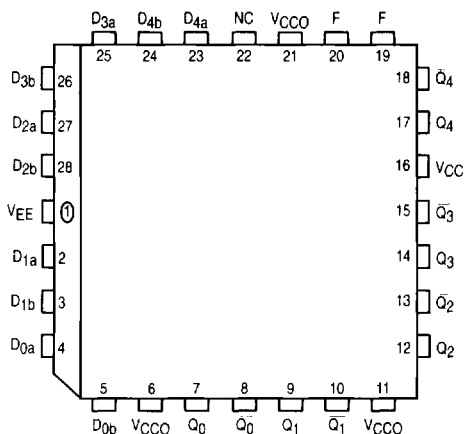


Quint 2-Input XOR/XNOR Gate

The MC10E100E107 is a quint 2-input XOR/XNOR gate. The function output F is the OR of all five XOR outputs, while \bar{F} is the NOR. The Q outputs need not be terminated if only the F outputs are to be used.

- 600ps Max. Propagation Delay
- OR/NOR Function Outputs
- Extended 100E V_{EE} Range of - 4.2V to - 5.46V
- 75k Ω Input Pulldown Resistors

Pinout: 28-Lead PLCC (Top View)



* All V_{CC} and V_{CC0} pins are tied together on the die.

PIN NAMES

Pin	Function
D0a - D4b	Data Inputs
Q0 - Q4	XOR Outputs
Q0 - Q4	XNOR Outputs
F	OR Output
F	NOR Output

FUNCTION OUTPUTS

$$F = (D0a \oplus D0b) + (D1a \oplus D1b) (D2a \oplus D2b) + (D3a \oplus D3b) + (D4a \oplus D4b)$$

MC10E107
MC100E107

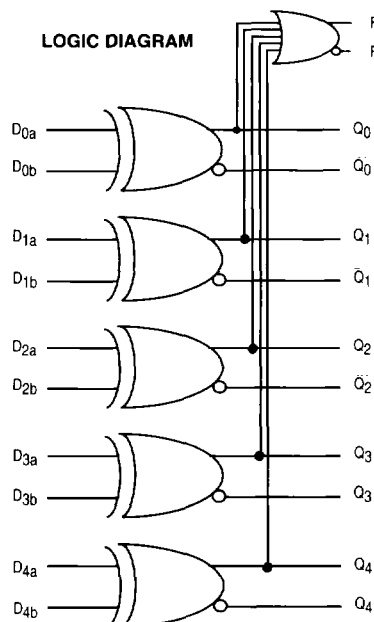
QUINT 2-INPUT
XOR/XNOR GATE



FN SUFFIX
PLASTIC PACKAGE
CASE 776-02

2

LOGIC DIAGRAM



MC10E107 MC100E107

DC CHARACTERISTICS (V_{EE} = V_{EE(min)} to V_{EE(max)}; V_{CC} = V_{CCO} = GND)

Symbol	Characteristic	0°C			25°C			85°C			Unit	Condition
		min	typ	max	min	typ	max	min	typ	max		
I _{IH}	Input HIGH Current			200			200			200	μA	
I _{EE}	Power Supply Current										mA	
	10E		42	50		42	50		42	50		
	100E		42	50		42	50		48	58		

AC CHARACTERISTICS (V_{EE} = V_{EE(min)} to V_{EE(max)}; V_{CC} = V_{CCO} = GND)

Symbol	Characteristic	0°C			25°C			85°C			Unit	Condition
		min	typ	max	min	typ	max	min	typ	max		
t _{PLH}	Propagation Delay to Output										ps	
t _{PHL}	D to Q D to F	250 500	410 725	600 1000	250 500	410 725	600 100	250 500	410 725	600 1000		
t _{SKEW}	Within-Device Skew D to Q		75			75			75		ps	1
t _r	Rise/Fall Times										ps	
t _f	20 - 80%											
	Q F	275 300	450 475	700 700	275 300	450 475	700 700	275 300	450 475	700 700		

2

1. Within-device skew is defined as identical transitions on similar paths through a device.