

FEATURES

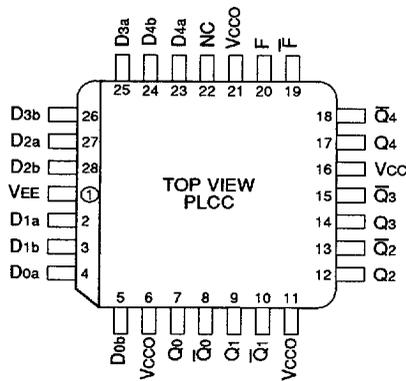
- 600ps max. propagation delay
- True and complementary outputs
- OR/NOR function outputs
- ESD protection of 2000V
- Fully compatible with Industry standard 10KH, 100K I/O levels
- Extended 100E VEE range of -4.2V to -5.46V
- Internal 75KΩ Input pulldown resistors
- Fully compatible with Motorola MC10E/100E107

DESCRIPTION

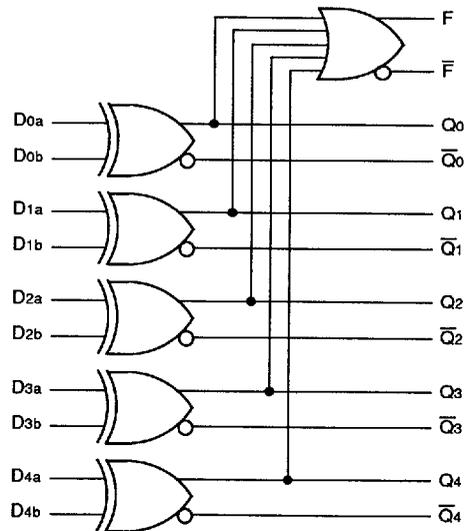
The SY10E107 and SY100E107 offer five 2-input XOR/XNOR gates and are designed for use in new, high-performance ECL systems.

The E107 also features a function output, F, which is the OR of all five XOR gate outputs, while \bar{F} is the NOR. Both true and complementary outputs are provided.

PIN CONFIGURATION



BLOCK DIAGRAM



PIN NAMES

Pin	Function
Dna, Dnb	Data Inputs
Q0-Q4	XOR Outputs
$\bar{Q}0-\bar{Q}4$	XNOR Outputs
F	OR Output
\bar{F}	NOR Output

LOGIC EQUATION

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

$$F = Q_0 + Q_1 + Q_2 + Q_3 + Q_4$$

DC ELECTRICAL CHARACTERISTICS

VEE = VEE (Min.) to VEE (Max); VCC = VCCO = GND

Symbol	Parameter	TA = 0°C			TA = +25°C			TA = +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 10E	—	42	50	—	42	50	—	42	50	mA	—
		—	42	50	—	42	50	—	48	58		

AC ELECTRICAL CHARACTERISTICS

VEE = VEE (Min.) to VEE (Max.); VCC = VCCO = GND

Symbol	Parameter	TA = 0°C			TA = +25°C			TA = +85°C			Unit	Condition
		Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.		
t _{PLH} t _{PHL}	Propagation Delay to Output D to Q D to F	250 500	410 725	600 1000	250 500	410 725	600 1000	250 500	410 725	600 1000	ps	—
t _{SKEW}	Within-Device Skew, D to Q	—	75	—	—	75	—	—	75	—	ps	1
t _r t _f	Rise/Fall Time 20% to 80% Q F	275 300	450 475	700 700	275 300	450 475	700 700	275 300	450 475	700 700	ps	—

NOTE:

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

PRODUCT ORDERING CODE

Ordering Code	Package Type	Operating Range
SY10E107JC	J28-1	Commercial
SY100E107JC	J28-1	Commercial