



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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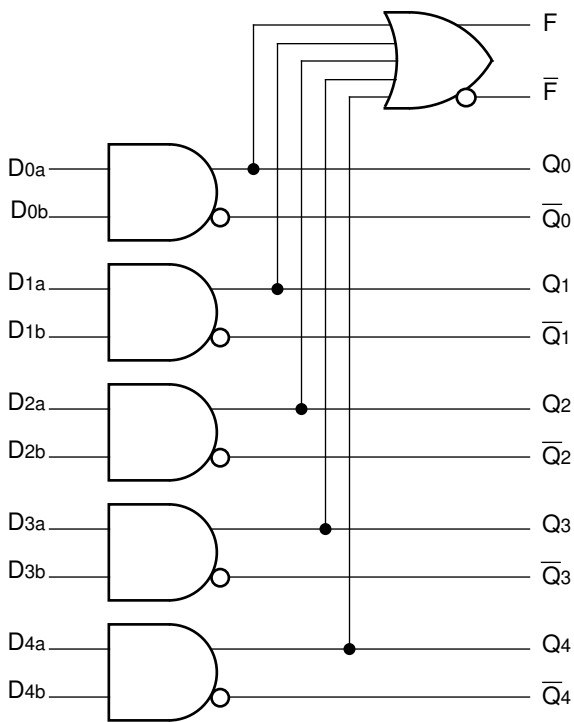
FEATURES

- 600ps max. propagation delay
- Extended 100E VEE range of -4.2V to -5.5V
- True and complementary outputs
- OR/NOR function outputs
- Fully compatible with Industry standard 10KH, 100K I/O levels
- Internal 75KΩ input pulldown resistors
- Fully compatible with Motorola MC10E/100E104
- Available in 28-pin PLCC package

DESCRIPTION

The SY10/100E104 are quint 2-input AND/NAND gates designed for use in new, high-performance ECL systems. The E104 also features a function output, F, which is the OR of all five AND gate outputs, while \bar{F} is the NOR. Both true and complementary outputs are provided.

BLOCK DIAGRAM

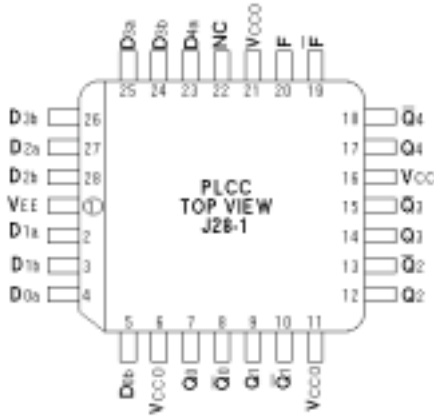


PIN NAMES

Pin	Function
Dna, Dnb	Data Inputs
Q0-Q4	AND Outputs
$\bar{Q}_0-\bar{Q}_4$	NAND Outputs
F	OR Output
\bar{F}	NOR Output
Vcco	Vcc to Output

PACKAGE/ORDERING INFORMATION

Ordering Information⁽¹⁾



28-Pin PLCC (J28-1)

Part Number	Package Type	Operating Range	Package Marking	Lead Finish
SY10E104JI	J28-1	Industrial	SY10E104JI	Sn-Pb
SY10E104JITR ⁽²⁾	J28-1	Industrial	SY10E104JI	Sn-Pb
SY100E104JI	J28-1	Industrial	SY100E104JI	Sn-Pb
SY100E104JITR ⁽²⁾	J28-1	Industrial	SY100E104JI	Sn-Pb
SY10E104JC	J28-1	Commercial	SY10E104JC	Sn-Pb
SY10E104JCTR ⁽²⁾	J28-1	Commercial	SY10E104JC	Sn-Pb
SY100E104JC	J28-1	Commercial	SY100E104JC	Sn-Pb
SY100E104JCTR ⁽²⁾	J28-1	Commercial	SY100E104JC	Sn-Pb
SY10E104JY ⁽³⁾	J28-1	Industrial	SY10E104JY with Pb-Free bar-line indicator	Matte-Sn
SY10E104JYTR ^(2, 3)	J28-1	Industrial	SY10E104JY with Pb-Free bar-line indicator	Matte-Sn
SY100E104JY ⁽³⁾	J28-1	Industrial	SY100E104JY with Pb-Free bar-line indicator	Matte-Sn
SY100E104JYTR ^(2, 3)	J28-1	Industrial	SY100E104JY with Pb-Free bar-line indicator	Matte-Sn

Notes:

1. Contact factory for die availability. Dice are guaranteed at T_A = 25°C, DC Electricals only.
2. Tape and Reel.
3. Pb-Free package is recommended for new designs.

LOGIC EQUATION

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

DC ELECTRICAL CHARACTERISTICS⁽¹⁾

V_{EE} = V_{EE} (Min.) to V_{EE} (Max.); V_{CC} = V_{CCO} = GND

Symbol	Parameter	TA = -40°C			TA = 0°C			TA = +25°C			TA = +85°C			Unit
		Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	
I _{IH}	Input HIGH Current	—	—	200	—	—	200	—	—	200	—	—	200	μA
I _{EE}	Power Supply Current	10E	38	46	38	46	38	46	38	46	38	46	46	mA
		100E	38	46	38	46	38	46	38	46	44	53		

Note:

1. Specification for packaged product only.

AC ELECTRICAL CHARACTERISTICS⁽²⁾

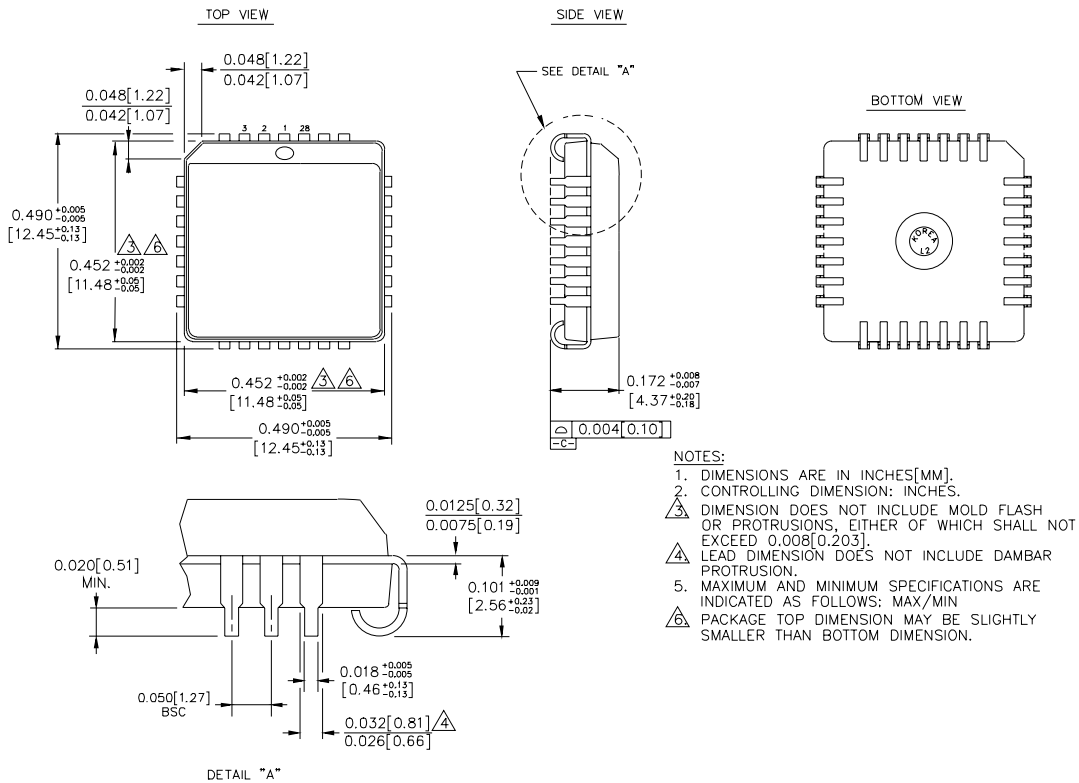
V_{EE} = V_{EE} (Min.) to V_{EE} (Max.); V_{CC} = V_{CCO} = GND

Symbol	Parameter	TA = -40°C			TA = 0°C			TA = +25°C			TA = +85°C			Unit	
		Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.		
t _{PD}	Propagation Delay to Output	D to Q	225	385	600	225	385	600	225	385	600	225	385	600	ps
		D to F	500	725	1000	500	725	1000	500	725	1000	500	725	1000	
t _{skew}	Within-Device Skew, D to Q ⁽¹⁾	—	75	—	—	75	—	—	75	—	—	75	—	ps	
t _r t _f	Rise/Fall Time 20% to 80%	Q	275	425	700	275	425	700	275	425	700	275	425	700	ps
		F	300	475	700	300	475	700	300	475	700	300	475	700	

Notes:

1. Within-device skew is defined as identical transitions on similar paths through a device.
2. Specification for packaged product only.

28-PIN PLCC (J28-1)



Rev. 03

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