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

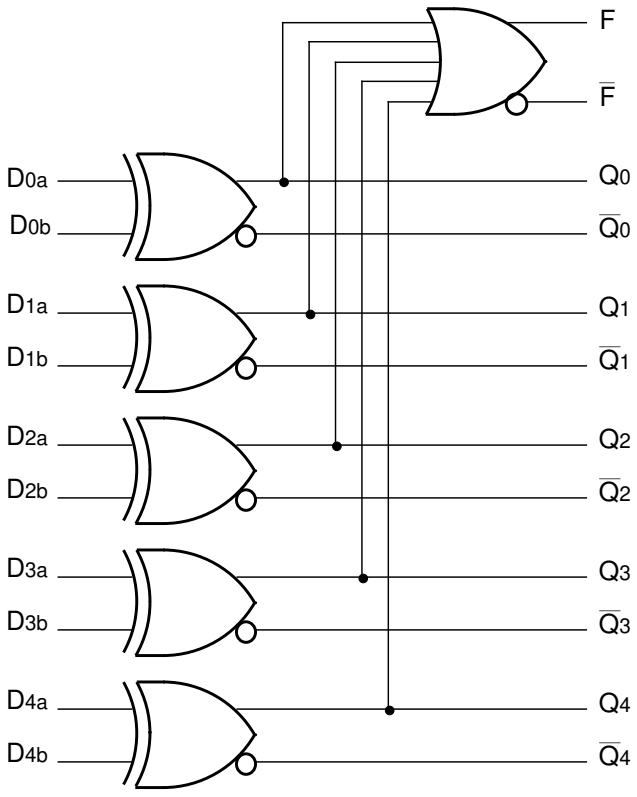
- **600ps max. propagation delay**
- **Extended 100E V_{EE} range of –4.2V to –5.5V**
- **True and complementary outputs**
- **OR/NOR function outputs**
- **Fully compatible with Industry standard 10KH, 100K I/O levels**
- **Internal 75KΩ input pulldown resistors**
- **Fully compatible with Motorola MC10E/100E107**
- **Available in 28-pin PLCC package**

DESCRIPTION

The SY10/100E107 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 $\overline{F}$ is the NOR. Both true and complementary outputs are provided.

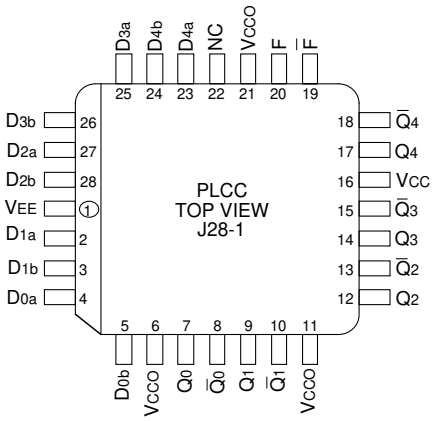
BLOCK DIAGRAM



PIN NAMES

Pin	Function
D_{na}, D_{nb}	Data Inputs
Q_0-Q_4	XOR Outputs
$\overline{Q}_0$-$\overline{Q}_4$	XNOR Outputs
F	OR Output
F	NOR Output
V_{CCO}	V_{CC} to Output

PACKAGE/ORDERING INFORMATION



28-Pin PLCC (J28-1)

Ordering Information[1]

Part Number	Package Type	Operating Range	Package Marking	Lead Finish
SY10E107JC	J28-1	Commercial	SY10E107JC	Sn-Pb
SY10E107JCTR[2]	J28-1	Commercial	SY10E107JC	Sn-Pb
SY100E107JC	J28-1	Commercial	SY100E107JC	Sn-Pb
SY100E107JCTR[2]	J28-1	Commercial	SY100E107JC	Sn-Pb
SY10E107JZ[3]	J28-1	Commercial	SY10E107JZ with Pb-Free bar-line indicator	Matte-Sn
SY10E107JZTR[2, 3]	J28-1	Commercial	SY10E107JZ with Pb-Free bar-line indicator	Matte-Sn
SY100E107JZ[3]	J28-1	Commercial	SY100E107JZ with Pb-Free bar-line indicator	Matte-Sn
SY100E107JZTR[2, 3]	J28-1	Commercial	SY100E107JZ 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

$F = (D_{0a} \oplus D_{0b}) + (D_{1a} \oplus D_{1b}) + (D_{2a} \oplus D_{2b}) + (D_{3a} \oplus D_{3b}) + (D_{4a} \oplus D_{4b})$
$F = Q_0 + Q_1 + Q_2 + Q_3 + Q_4$

DC ELECTRICAL CHARACTERISTICS

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

Symbol	Parameter	$T_A = 0°C$			$T_A = +25°C$			$T_A = +85°C$			Unit	Condition
		Min.	Typ.	Max.	Mlin.	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 ELECTRICAL CHARACTERISTICS

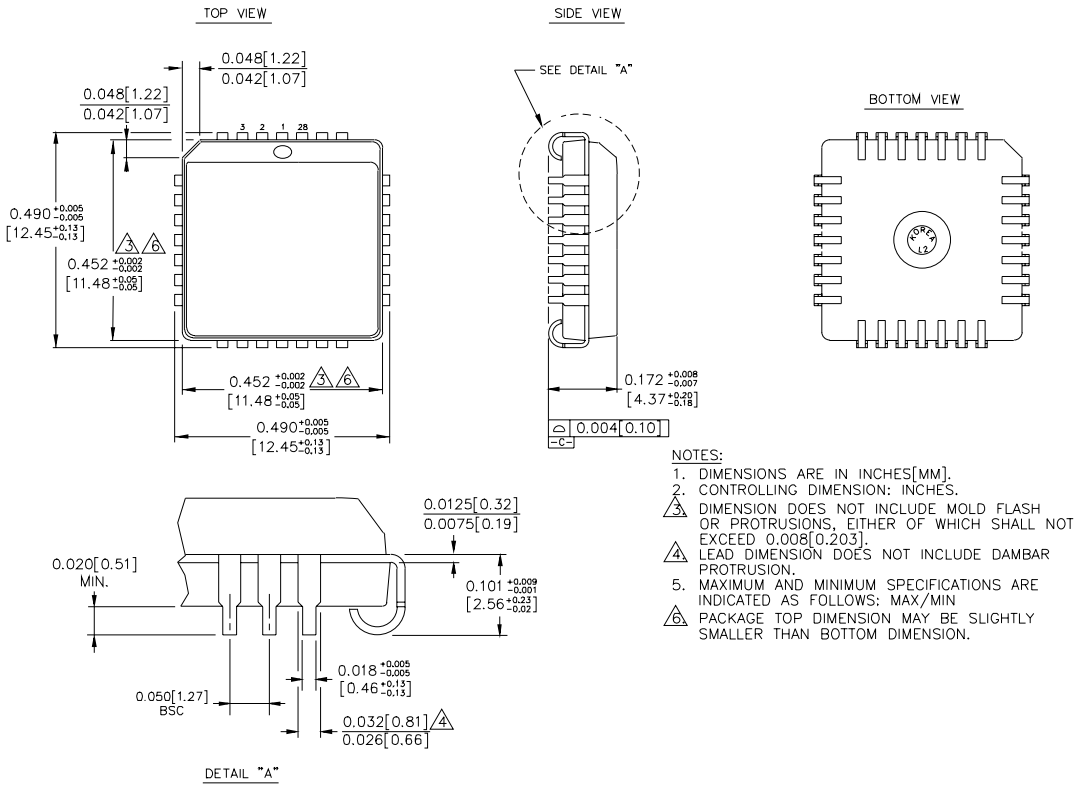
$V_{EE} = V_{EE}$ (Min.) to V_{EE} (Max.); $V_{CC} = V_{CCO} = GND$

Symbol	Parameter	$T_A = 0°C$			$T_A = +25°C$			$T_A = +85°C$			Unit	Condition
		Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.		
t_{PD}	Propagation Delay to Output										ps	—
	D to Q	250	410	600	250	410	600	250	410	600		
	D to F	500	725	1000	500	725	1000	500	725	1000		
t_{skew}	Within-Device Skew, D to Q	—	75	—	—	75	—	—	75	—	ps	1
t_r	Rise/Fall Time										ps	—
t_f	20% to 80% Q	275	450	700	275	450	700	275	450	700		
	F	300	475	700	300	475	700	300	475	700		

Note:

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

28-PIN PLCC (J28-1)



NOTES:
1. DIMENSIONS ARE IN INCHES[MM].
2. CONTROLLING DIMENSION: INCHES.
3. DIMENSION DOES NOT INCLUDE MOLD FLASH OR PROTRUSIONS, EITHER OF WHICH SHALL NOT EXCEED 0.008[0.203].
4. LEAD DIMENSION DOES NOT INCLUDE DAMBAR PROTRUSION.
5. MAXIMUM AND MINIMUM SPECIFICATIONS ARE INDICATED AS FOLLOWS: MAX/MIN
6. PACKAGE TOP DIMENSION MAY BE SLIGHTLY SMALLER THAN BOTTOM DIMENSION.

Rev. 03

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