

CMOS-8L Family

CMOS Gate Array

Block Library

Ver.5.0

Supplementary Document

**Gate Array Department
2nd System LSI Division
NEC Corporation**

Revision History

This document is a supplement to “CMOS-8L Family Block Library Ver.5.0 ”
(A12213XJ5V0UM00, August 1998 NS).

A12213XJ5V0X100

<Location of Error>

pp.6-338, 6-340

<Description>

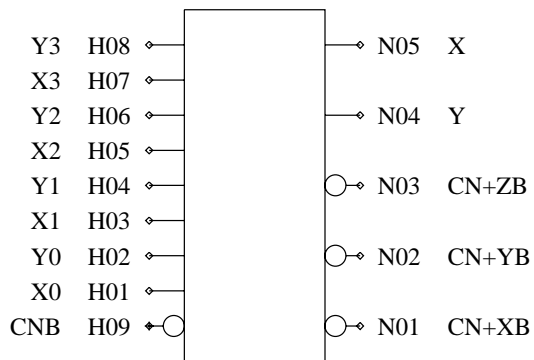
Modification of Truth Table

Modification of Function Name

FUNCTION BLOCK

Function	4-Bit Look Ahead Carry Generator								SSI Family	
Block type	Standard type									
	Normal		High speed							
Drivability	Name	cells	Name	cells						
Low Power										
x1	F526	34								
x2										
x4										

Logic Diagram



Truth Table

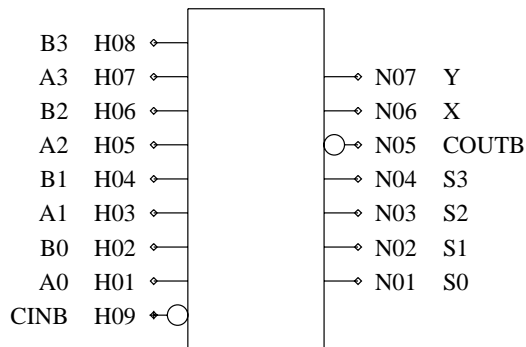
Y3	Y2	Y1	Y0	X3	X2	X1	Y
0	X	X	X	X	X	X	0
X	0	X	X	0	X	X	0
X	X	0	X	0	0	X	0
X	X	X	0	0	0	0	0
All other combinations							1

X3	X2	X1	X0	X
0	0	0	0	0
All other combinations				1

FUNCTION BLOCK

Function	4-Bit Carry Look Ahead Adder								SSI Family			
Block type	Standard type											
	Normal		High speed									
Drivability	Name	cells	Name	cells								
Low Power												
x1	F527	68										
x2												
x4												

Logic Diagram



Truth Table

A0	B0	A1	B1	A2	B2	A3	B3	*1	S0	S1	S2	S3	*2	X	Y
0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0
0	1	0	1	0	1	0	1	0	0	1	1	1	1	0	0
1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	1
1	1	1	1	1	1	1	1	0	1	1	1	1	0	1	1
0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0
0	1	0	1	0	1	0	1	1	1	0	1	1	1	0	0
1	0	1	0	1	0	1	0	1	1	1	1	1	1	0	1
1	1	1	1	1	1	1	1	1	0	1	1	1	0	1	1

(n=0,1,2,3) , *1:CinB , *2:CoutB

$S_n = (A_n + B_n + C_{inB})$

$X = (A_0 \neq B_0) + (A_1 \neq B_1) + (A_2 \neq B_2) + (A_3 \neq B_3)$

$Y = 1 : (A_n + B_n) \geq 1111$

$Y = 0 : (A_n + B_n) < 1111$