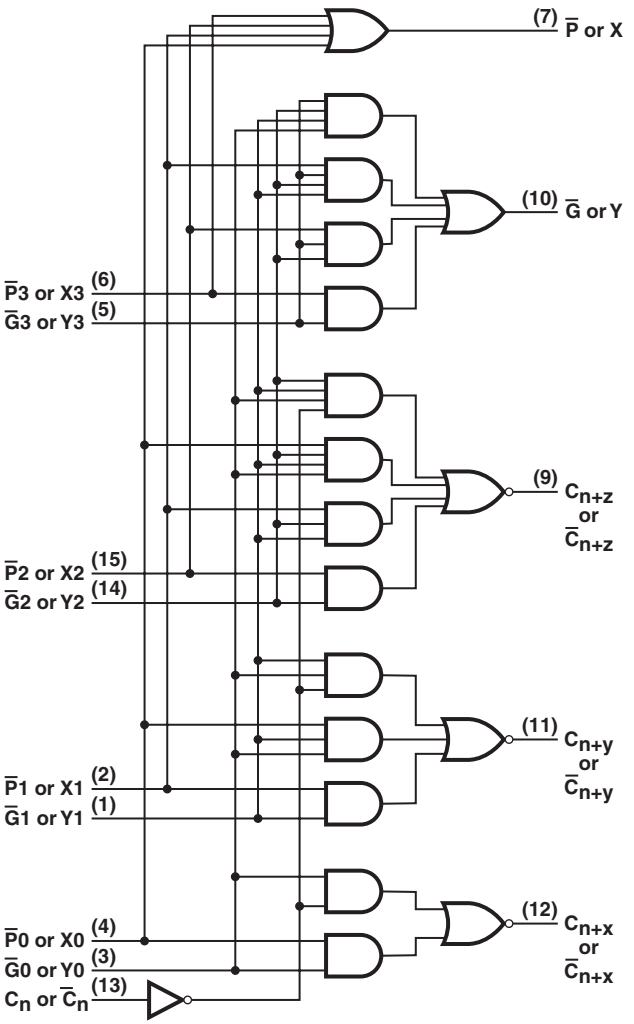
LOOK-AHEAD CARRY GENERATOR

Logic Diagram



: OBSOLETED or NOT RECOMMENDED NEW DESIGNS

FUNCTION TABLE

$\overline{G}$ OUTPUTS

INPUTS							OUTPUT
$\overline{G}3$	$\overline{G}2$	$\overline{G}1$	$\overline{P}3$	$\overline{P}2$	$\overline{P}1$	$\overline{P}0$	$\overline{G}$
L	X	X	X	X	X	X	L
X	L	X	X	L	X	X	L
X	X	L	X	L	L	X	L
X	X	X	L	L	L	L	L
All other combinations							H

$\overline{P}$ OUTPUTS

INPUTS				OUTPUT
$\overline{P}3$	$\overline{P}2$	$\overline{P}1$	$\overline{P}0$	$\overline{P}$
L	L	L	L	L
All other combinations				H

C_{n+x} OUTPUTS

INPUTS			OUTPUT
$\overline{G}0$	$\overline{P}0$	Cn	C_{n+x}
L	X	X	H
X	L	H	H
All other combinations			L

C_{n+y} OUTPUTS

INPUTS					OUTPUT
$\overline{G}1$	$\overline{G}0$	$\overline{P}1$	$\overline{P}0$	C_n	C_{n+y}
L	X	X	X	X	H
X	L	L	X	X	H
X	X	L	L	H	H
All other combinations					L

C_{n+z} OUTPUTS

INPUTS							OUTPUT
$\overline{G}2$	$\overline{G}1$	$\overline{G}0$	$\overline{P}2$	$\overline{P}1$	$\overline{P}0$	C_n	C_{n+z}
L	X	X	X	X	X	X	H
X	L	X	L	X	X	X	H
X	X	L	L	L	X	X	H
X	X	X	L	L	L	H	H
All other combinations							L

ELECTRICAL CHARACTERISTICS AND RECOMMENDED OPERATING CONDITIONS

PARAMETER	MAX or MIN	TTL	S	AS	UNIT
I_{CC}	MAX	72	109	36	mA
I_{OH}	MAX	-0.8	-1	-2	mA
I_{OL}	MAX	16	20	20	mA

SWITCHING CHARACTERISTICS

PARAMETER	INPUT	OUTPUT	MAX or MIN	TTL	S	AS
t_{PLH}	Cn	Cn + X, Cn + Y or Cn + Z	MAX	10	10	10
t_{PHL}				10.5	10.5	9.5
t_{PLH}	P or $\overline{G}$	Cn + X, Cn + Y or Cn + Z	MAX	7	7	10.5
t_{PHL}				7	7	6
t_{PLH}	P or $\overline{G}$	$\overline{G}$	MAX	7.5	7.5	12
t_{PHL}				10.5	10.5	8
t_{PLH}	$\overline{P}$	$\overline{P}$	MAX	6.5	6.5	7.5
t_{PHL}				10	10	6

UNIT: ns