



ELECTRONICS, INC.
 44 FARRAND STREET
 BLOOMFIELD, NJ 07003
 (973) 748-5089
<http://www.nteinc.com>

NTE40182B Integrated Circuit CMOS, Look-Ahead Carry Generator 16-Lead DIP Type Package

Description:

The NTE40182B is a high-speed look-ahead carry generator capable of anticipating a carry across four binary adders or groups of adders. This device is cascadable to perform full look-ahead across n-bit adders. Carry, propagate-carry, and generate-carry functions are provided as enumerated in the Pin Connection Diagram.

Features:

- Generates High-Speed Carry Across Four Adders of Adders Groups
- High-Speed Operational: $t_{PHL} = t_{PLH} = 100\text{ns}$ (Typ) at $V_{DD} = 10\text{V}$
- Cascadable for Fast Carries over N-Bits
- Standardized, Symmetrical Output Characteristics
- Quiescent Current Specified at 20V
- 5V, 10V, and 15V Parametric Ratings
- Input Current of 100nA at 18V and +25°C

Absolute Maximum Ratings: (Note 1)

Supply Voltage (Voltages Referenced to V_{SS}), V_{DD}	-0.5 to +20V
Input Voltage, V_I	-0.5 to $V_{DD}+0.5\text{V}$
DC Input Current (Any One Input), I_I	$\pm 10\text{mA}$
Total Power Dissipation (Per Package), P_{tot}	200mW
Device Dissipation (Per Output Transistor)	
For $T_{opr} =$ Full package Temperature Range	100mW
Operating Temperature Range, T_{opr}	-55° to +125°C
Storage Temperature Range, T_{stg}	-65° to +150°C

Note 1. Stresses above those listed under “Absolute Maximum Ratings” may cause permanent damage to the device. This is a stress rating only and functional operation of the device at these or any other conditions above those indicated in the operational sections of this specification is not implied. Exposure to absolute maximum rating conditions for external periods may affect device reliability.

Recommended Operating Conditions:

Supply Voltage, V_{DD}	3 to 18V
Input Voltage, V_I	0 to V_{DD} V
Operating Temperature Range, T_{opr}	-55° to +125°C

Static Electrical Characteristics:

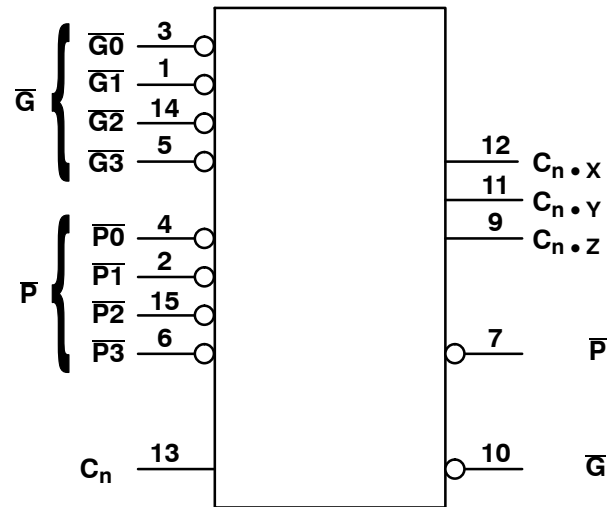
Characteristic	Conditions				Limits at Indicated Temperature (°C)						Units	
	V _I (V)	V _O (V)	I _O (μA)	V _{DD} (V)	-55°C		+25°C			+125°C		
					Min	Max	Min.	Typ.	Max.	Min		Max
Quiescent Device, I _L	0,5	-	-	5	-	5	-	0.04	5.0	-	150	μA
	0,10	-	-	10	-	10	-	0.04	10	-	300	μA
	0,15	-	-	15	-	20	-	0.04	20	-	600	μA
	0,20	-	-	20	-	100	-	0.08	100	-	3000	μA
Output High Voltage, V _{OH}	0,5	-	< 1	5	4.95	-	4.95	5.0	-	4.95	-	V
	0,10	-	< 1	10	9.95	-	9.95	10	-	9.95	-	V
	0,15	-	< 1	15	14.95	-	14.95	15	-	14.95	-	V
Output Low Voltage, V _{OL}	5,0	-	< 1	5	-	0.05	-	-	0.05	-	0.05	V
	10,0	-	< 1	10	-	0.05	-	-	0.05	-	0.05	V
	15,0	-	< 1	15	-	0.05	-	-	0.05	-	0.05	V
Input High Voltage, V _{IH}	-	0,5,4,5	< 1	5	3.5	-	3.5	-	-	3.5	-	V
	-	1,9	< 1	10	7.0	-	7.0	-	-	7.0	-	V
	-	1,5,13,5	< 1	15	11.0	-	11.0	-	-	11.0	-	V
Input Low Voltage, V _{IL}	-	0,5,4,5	< 1	5	-	1.5	-	-	1.5	-	1.5	V
	-	9,1	< 1	10	-	3.0	-	-	3.0	-	3.0	V
	-	1,5,13,5	< 1	15	-	4.0	-	-	4.0	-	4.0	V
Output Drive Current, I _{OH}	0,5	2,5	-	5	-2.0	-	-1.6	-3.2	-	-1.15	-	mA
	0,5	4,6	-	5	-0.64	-	-0.51	-1.0	-	-0.36	-	mA
	0,10	9,5	-	10	-1.6	-	-1.3	-2.6	-	-0.9	-	mA
	0,15	13,5	-	15	-4.2	-	-3.4	-6.8	-	-2.4	-	mA
Output Sink Current, I _{OL}	0,5	0,4	-	5	0.64	-	0.51	1.0	-	0.36	-	mA
	0,10	0,5	-	10	1.6	-	1.3	2.6	-	0.9	-	mA
	0,15	1,5	-	15	4.2	-	3.4	6.8	-	2.4	-	mA
Input Current, I _{IH} , I _{IL}	0,18	Any Input		18	-	±0.1	-	±10 ⁻⁵	±0.1	-	±1.0	μA
Input Capacitance, C _I	-	Any Input		-	-	-	-	5.0	7.5	-	-	pF

Dynamic Electrical Characteristics: (T_A = +25°C, C_L = 50pF, R_L = 200kΩ, t_r and t_f = 20ns, Note 2 unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Propagation Delay Time P, G, in to P G out and Carry Outs C _n to Carry Outs	t _{PHL} or t _{PLH}	V _{DD} = 5V	-	200	400	ns
		V _{DD} = 10V	-	100	200	ns
		V _{DD} = 15V	-	75	150	ns
		V _{DD} = 5V	-	240	480	ns
		V _{DD} = 10V	-	120	240	ns
		V _{DD} = 15V	-	90	180	ns
Transition Time	t _{THL} or t _{TLH}	V _{DD} = 5V	-	100	200	ns
		V _{DD} = 10V	-	50	100	ns
		V _{DD} = 15V	-	40	80	ns

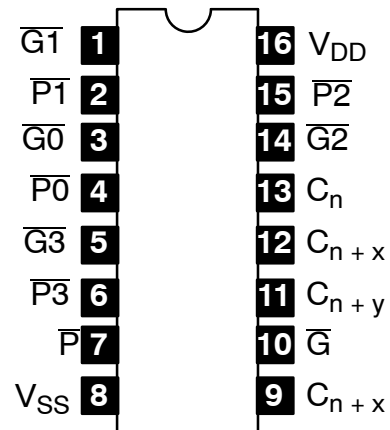
Note 2. Typical temperature coefficient for all V_{DD} values is 0.3%/°C.

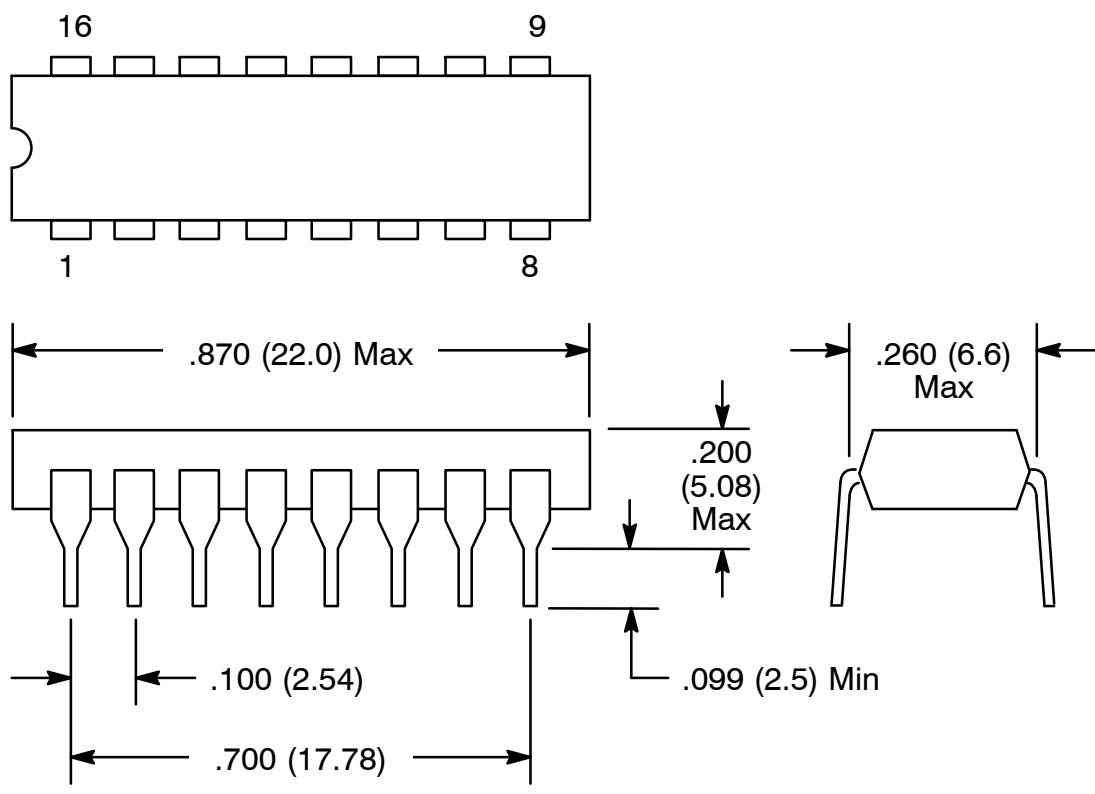
Functional Diagram



$V_{DD} = \text{Pin16}$
 $V_{SS} = \text{Pin8}$

Pin Connection Diagram





X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [NTE manufacturer](#):

Other Similar products are found below :

[5W127](#) [5W5D0](#) [5WD10](#) [747](#) [797](#) [868](#) [R04-11A30-24](#) [RIM-IAC5](#) [1724](#) [NEH100M6.3BA](#) [NEH1.0M63AA](#) [NEH.33M100AA](#)
[NEH3.3M100BA](#) [NEH.47M100AA](#) [NEH680M100GF](#) [NEHH1.0M450CB](#) [NEHH4.7M160BB](#) [NEV.33M100AA](#) [NEVH1.0M160AA](#)
[NEVH1.0M250AB](#) [NEVH3.3M250BB](#) [NEVH3.3M450CC](#) [NTE131](#) [NTE1389](#) [NTE1396](#) [NTE1416](#) [NTE1728](#) [NTE1751](#) [NTE1759](#)
[NTE1780](#) [NTE1813](#) [NTE1837](#) [NTE1845](#) [NTE1863](#) [NTE1872](#) [NTE187A](#) [NTE1897](#) [NTE1915](#) [NTE1964](#) [NTE2085](#) [NTE226](#) [NTE2323](#)
[NTE233](#) [NTE2409](#) [NTE2540](#) [NTE369](#) [NTE48](#) [NTE5156A](#) [NTE526A](#) [NTE5524](#)