

NLB6203

**NEL
SELIC**

Quad 3 input AND/NAND

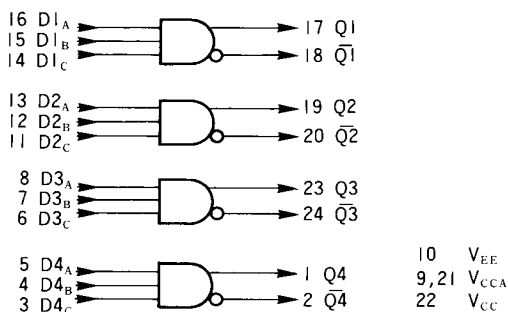
Description

The NLB6203 is an ultra high-speed monolithic quad 3-input AND/NAND gates.

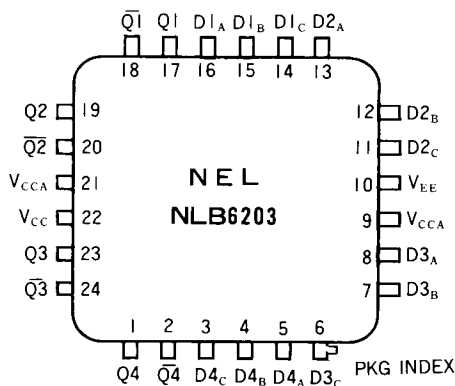
Features

- Typical AC characteristics
 - $t_{pd}=440ps$
 - $t_r=130ps$
 - $t_f=120ps$
- Internal pull down resistors on input pins to maintain logic LOW level with the pins left open
- ELC100K compatible I/O levels
- Differential output

Logic Symbol



Pin Assignment Top View (Ceramic)



Pin Name

$D_n - D_{nC}$	Data inputs
$Q_n, \bar{Q}_n$	Data outputs
V_{CC}	Circuit GND
V_{CCA}	Circuit GND for Outputs
V_{EE}	-4.5V

DC Characteristics

$V_{EE} = -4.5V \pm 0.3V$, $V_{CC} = GND$, $V_{TT} = -2V$
 $T_C = 0^\circ C$ to $+85^\circ C$

Characteristics	Symbol	Min.	Typ.	Max.	Unit
Power supply current	I_{EE}	100	150	200	mA

AC Characteristics

$V_{EE} = -4.5V \pm 0.3V$, $V_{CC} = GND$, $V_{TT} = -2V$
 $T_C = 0^\circ C$ to $+85^\circ C$, $R_T = 50\Omega$ to V_{TT}

Characteristics	Symbol	Min.	Typ.	Max.	Unit
Propagation delay to output	t_{PLH}		430	570	ps
	t_{PHL}		440	590	
Rise time 20% to 80%	t_r		130	170	
Fall time 80% to 20%	t_f		120	160	

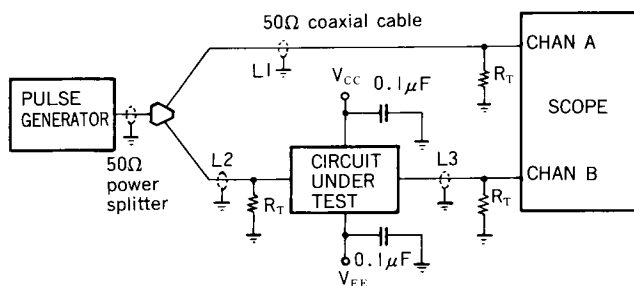
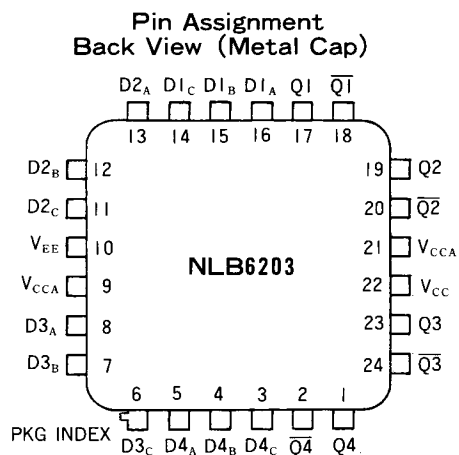
Truth table

Input			Output	
D_{nA}	D_{nB}	D_{nC}	Q	$\bar{Q}$
L	L	L	L	H
L	X	X	L	H
X	L	X	L	H
X	X	L	L	H
H	H	H	H	L

X : Arbitrary
 H : High voltage level
 L : Low voltage level

NLB6203 Quad 3 input AND/NAND

AC Test Circuit



Notes) $V_{CC}, V_{CCA} = +2V, V_{EE} = -2.5V$
 $L1 = L2 + L3$
 $R_T = 50\Omega$ terminator.
 Unused complement output is loaded with 50Ω to GND.
 $C_L = \text{Fixture and stray capacitance} \leq 2 \text{ pF}$.

Propagation Delay and Transition Times

