NLB6280

NEL
SELIC

Phase Frequency Comparator

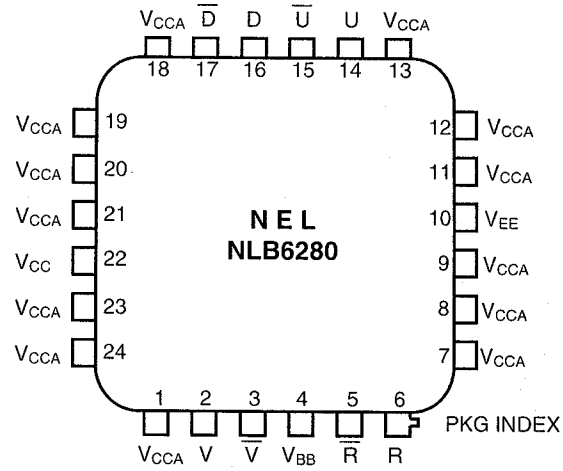
Description

The NLB6280 is an ultra high-speed monolithic phase frequency comparator.

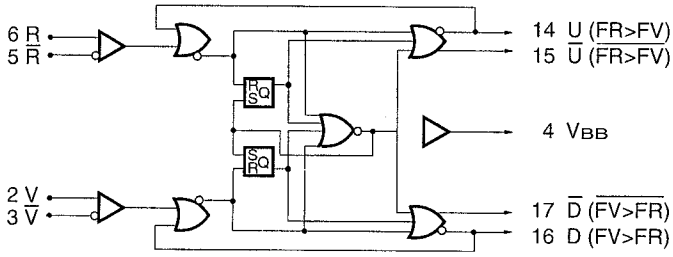
Features

- Typical clock rate up to 2.0 GHz
- Internal pull down resistors on input pins (R, V) to maintain logic LOW level with the pins left open
- Internal pull up resistors on input pins ($\overline{R}$, $\overline{V}$) to maintain logic HIGH level with the pins left open
- ECL100K compatible I/O levels
- Differential input and output

Pin Assignment
Top View (Ceramic)



Logic Symbol



V_{CCA} 1,7~9,11~13,18~21,23,24
V_{CC} 22
V_{EE} 10

Pin Name

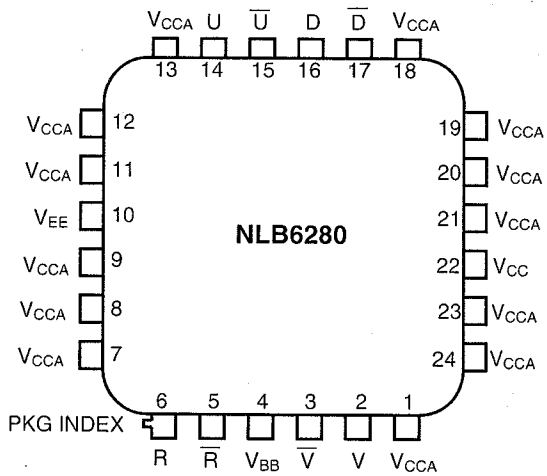
R, $\overline{R}$	R input
V, $\overline{V}$	V input
U, $\overline{U}$	U output
D, $\overline{D}$	D output
V_{BB}	Reference voltage output
V_{CC}	Circuit GND
V_{CCA}	Circuit GND for outputs
V_{EE}	-4.5V

Truth table

Input		output			
R	V	U	D	$\overline{U}$	$\overline{D}$
L	L	X	X	X	X
L	H	X	X	X	X
H	H	X	X	X	X
L	H	X	X	X	X
H	H	H	L	L	H
L	H	H	L	L	H
H	H	H	L	L	H
H	L	H	L	L	H
H	H	L	L	H	H
H	L	L	L	H	H
H	H	L	H	H	L
H	L	L	H	H	L
H	H	L	H	H	L
L	H	L	H	H	L
H	H	L	L	H	H

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

Back View (Metal Cap)



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DC Characteristics

V_{EE}=-4.5V±0.3V, V_{CC}=V_{CCA}=GND,V_{TT}=-2V,T_C=0°C to +85°C, R_T=50Ω to V_{TT}

Characteristics	Symbol	Min.	Typ.	Max.	Unit
Power supply current	I_{EE}	65	115	150	mA

AC Characteristics

V_{EE}=-4.5V ±0.3V, V_{CC}=V_{CCA}=GND, V_{TT}=-2V,T_C=0°C to +85°C, R_T=50Ω to V_{TT}

Characteristics	Symbol	Input	output	Test condition	Min.	Typ.	Max.	Unit
Propagation delay time	t_{PLH}	R	U			670	890	ps
	t_{PHL}					810	1070	
	t_{PLH}		D			700	930	
	t_{PHL}					770	1020	
	t_{PLH}	V	U			670	890	
	t_{PHL}					810	1070	
	t_{PLH}		D			700	930	
	t_{PHL}					770	1020	
Maximum operating frequency	f_{max}	R,V	U,D		1.5	2.0		GHz
Minimum operating frequency	f_{min}						50	MHz
Rise time	t_r			20 to 80%		140	190	ps
Fall time	t_f					140	190	

Timing Chart