

NLB6275

NEL
SELIC

15, 7 stage Descrambler

Description

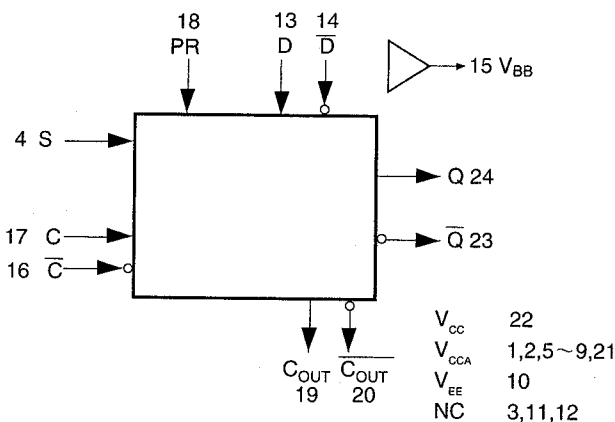
The NLB6275 is an ultra high-speed monolithic ECL Data Descrambler with variable bit length.

Select switches S select a bit length. This IC is used in combination with the NLB6274 Scrambler /M-code generator to reconvert a pseudo-random data sequence into the original data sequence.

Features

- Typical clock rate up to 2.6GHz
- Variable bit length : 15, 7
(bit length is in accordance with ITU-T)
- Internal pull down resistors on input pins (C, D, S, PR) to maintain logic LOW level with the pins left open.
- Internal pull up resistors on input pins ($\bar{C}$, $\bar{D}$) to maintain logic HIGH level with the pins left open.
- ECL100K compatible I/O levels.
- Differential input and output.

Logic Symbol



Stage select

S	Operation
L	15 stage ($2^{15}-1$)
H	7 stage (2^7-1)

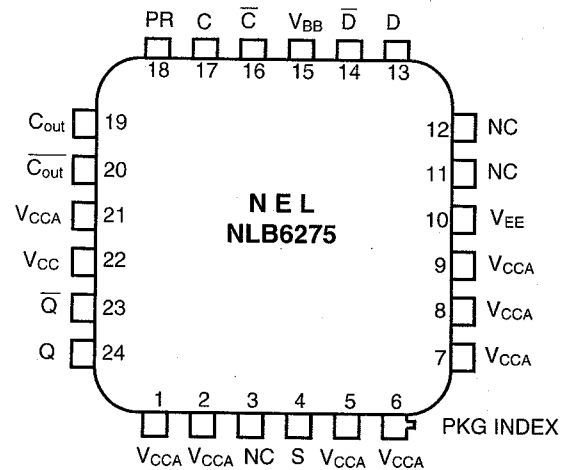
H : High voltage level

L : Low voltage level

Truth table

D	S	Q	$\bar{Q}$
$2^{15}-1$	L	L	H
2^7-1	H	L	H

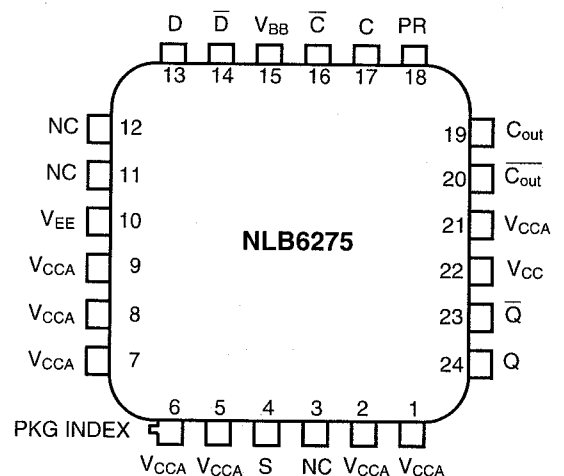
Pin Assignment Top View (Ceramic)



Pin Name

D, $\bar{D}$	Data input in descrambler mode
S	Stage select input
C, $\bar{C}$	Clock input (positive edge trigger)
Q, $\bar{Q}$	Data output
C _{out} , $\bar{C}_{out}$	Buffered clock output
PR	Preset
V _{BB}	Reference voltage output
V _{CC}	Circuit GND
V _{CCA}	Circuit GND for outputs
V _{EE}	-4.5V
NC	No connection (It must be left open.)

Back View (Metal Cap)



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DC Characteristics

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

Characteristics	Symbol	Min.	Typ.	Max.	Unit
Power supply current	I_{EE}	120	240	355	mA

AC Characteristics

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

Characteristics	Symbol	Input	output	Min.	Typ.	Max.	Unit
Propagation delay time to output	t_{PLH}	C	C_{out}		410	545	ps
	t_{PHL}				380	505	
Rise time 20% to 80%	t_r		Q		145	195	
Fall time 20% to 80%	t_f				145	195	
Rise time 20% to 80%	t_r		C_{out}		145	195	
Fall time 20% to 80%	t_f				145	195	
Setup time		C,D	Q	110	70		
Hold time				250	180		
Maximum operating frequency	f_{max}	C	Q		2.6		GHz

Notice

PR (Pin No.18) must be H level input at first.