

NLB6291

NEL
SELIC

Dual SCFL to ECL Level Convertor

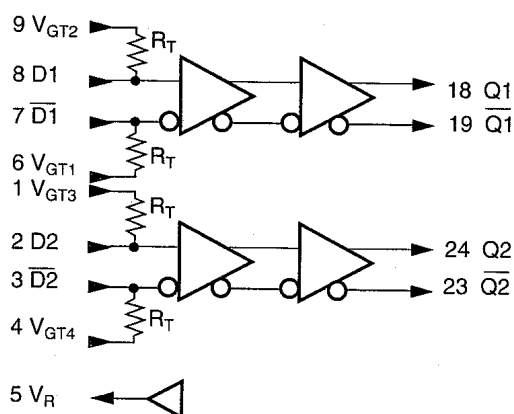
Description

The NLB6291 is an ultra high-speed monolithic dual SCFL to ECL level convertor.

Features

- Typical AC characteristics
Data rate up to 5 Gb/s.
 $t_r = 145\text{ps}$
 $t_f = 145\text{ps}$
- Due to built-in 50-ohm termination resistors connected between data input pins and a V_{GTn} pin, external termination resistors are not required for impedance matching.
- Differential SCFL compatible inputs.
- Differential ECL100K compatible outputs.

Logic Symbol



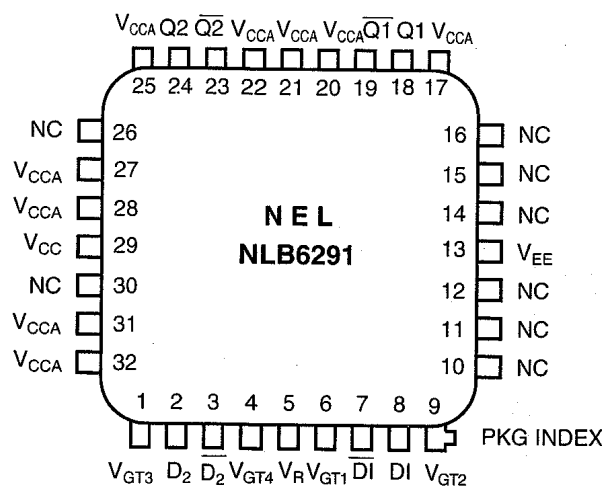
V_{CC}	29
V_{CCA}	17, 20 ~ 22, 25, 27, 28, 31, 32
V_{EE}	13
NC	10 ~ 12, 14 ~ 16, 26, 30

Truth table

Input	output
D_n	Q_n
L	L
H	H

H : High voltage level
L : Low voltage level

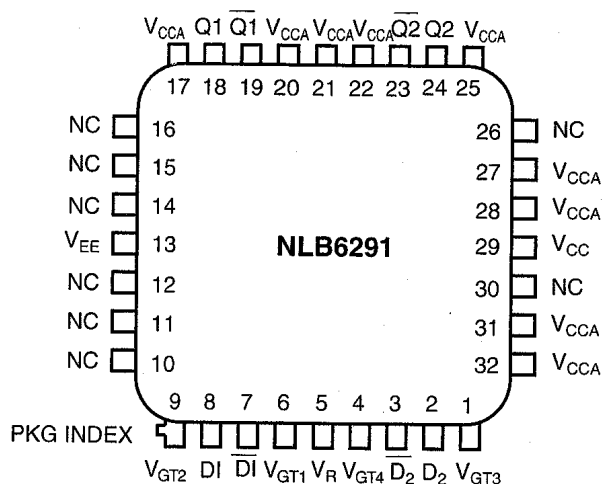
Pin Assignment Top View (Ceramic)



Pin Name

$D_n, \overline{D}_n$	SCFL Data inputs
$Q_n, \overline{Q}_n$	ECL Data outputs
V_{GTn}	Termination GND for SCFL inputs
V_{CC}	Circuit GND
V_{CCA}	Circuit GND for outputs
V_R	Reference voltage output for SCFL
V_{EE}	-4.5V

Back View (Metal Cap)



NLB6291 Dual SCFL to ECL Level Convertor

DC Characteristics

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

Characteristics	Symbol	Min.	Typ.	Max.	Unit
Input High voltage	V_{IH}	-0.2	0.0		V
Input Low voltage	V_{IL}		-0.9	-0.75	
Reference voltage	V_R		-0.45		
Power supply current	I_{EE}	40	70	100	mA

AC Characteristics

$V_{EE} = -4.5V \pm 0.3V$, $V_{CC} = V_{CCA} = GND$, $V_{GTn} = GND$, $T_C = 0^\circ C$ 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}	D_n	Q_n		200	340	ps
	t_{PHL}				180	290	
Rise time 20% to 80%	t_r				145	195	
Fall time 20% to 80%	t_f				145	195	

Typical Output Voltage Swing

$V_{EE} = -4.5V$, $V_{CC} = V_{CCA} = GND$, $V_{TT} = -2V$, $R_T = 50\Omega$ to V_{TT}

