

Quint Line Receiver with Differential I/O

Description

The CXB1103Q is an ultra high speed monolithic ECL IC, which contains five differential line receivers with a built-in reference voltage supply (V_{BB}). With V_{BB} tied to one of the input pins of each differential input pair, each gate can be used as a single input line receiver.

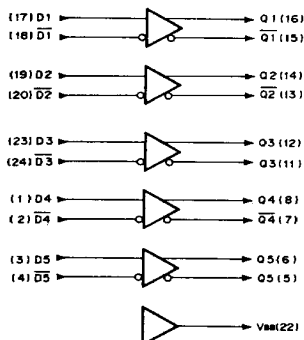
Features

- Typical AC characteristics
 - $T_{pd} = 430\text{ps}$
 - $T_{TLH} = 220\text{ps}$
 - $T_{THL} = 170\text{ps}$
- Internal pull down resistors on input pins to maintain logic LOW level with the pins left open
- ECL 100K compatible I/O levels
- Differential I/O

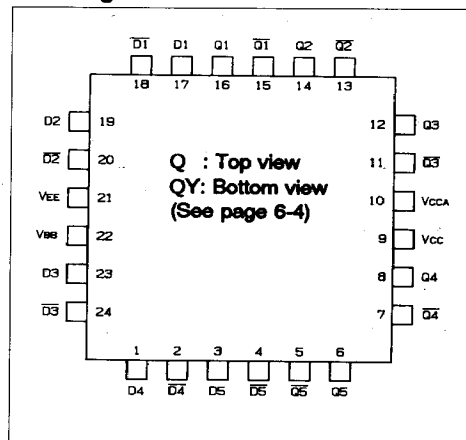
Pin Names

$D_n, \overline{D_n}$	Data inputs
$Q_n, \overline{Q_n}$	Data outputs
V_{BB}	Reference voltage output
V_{CC}	Circuit ground
V_{CCA}	Circuit ground for outputs
V_{EE}	Negative power supply

Logic Symbol



Pin Assignment



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

Item	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Power supply current	I_{EE}		-154	-113	-79	mA
Min. differential input voltage*1	V_{p-p}			50		mVpp

Note: Other DC characteristics; See pages 3-3 and 3-4.

*1: Minimum voltage required to obtain full logic swing on output

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

Item	Symbol	Input	Output	Test Condition	Min.	Typ.	Max.	Unit
Propagation delay time	T_{PLH}	Dn	Qn		310	410	520	ps
	T_{PHL}				320	430	540	
Gate-to-Gate skew	T_{SG-G}					50	90	
Rise time	T_{TLH}			20% to 80%		220	280	
Fall time	T_{THL}					170	220	

Note: AC test circuit; See page 4-3.

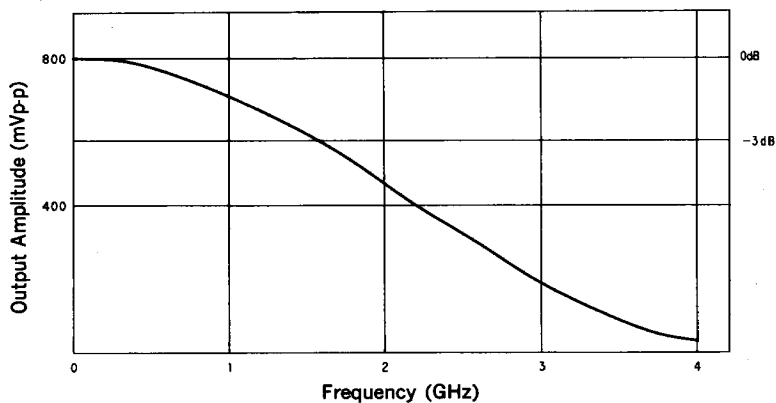


Figure 1. Frequency characteristics