

Quad Bus Driver/Receiver with 2-to-1 Output Multiplexers

The MC10H330 is a Quad Bus Driver/Receiver with two-to-one output multiplexers. These multiplexers have a common select and output enable. When disabled, (OE = high) the bus outputs go to -2.0 V. Their output can be brought to a low state (VOL) by applying a high level to the receiver enable (RE = High). The parameters specified are with 25 Ω loading on the bus drivers and 50 Ω loads on the receivers.

- Propagation Delay, 1.5 ns Typical Data-to-Output
- Improved Noise Margin 150 mV (Over Operating Voltage and Temperature Range)
- Voltage Compensated
- MECL 10K-Compatible

MAXIMUM RATINGS

Characteristic	Symbol	Rating	Unit
Power Supply (VCC = 0)	V _{EE}	-8.0 to 0	Vdc
Input Voltage (VCC = 0)	V _I	0 to V _{EE}	Vdc
Output Current—Continuous	I _{out}	50	mA
— Surge		100	
Operating Temperature Range	T _A	0 to +75	°C
Storage Temperature Range— Plastic	T _{stg}	-55 to +150	°C
— Ceramic		-55 to +165	°C

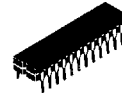
ELECTRICAL CHARACTERISTICS (V_{EE} = -5.2 V ±5%) (See Note)

Characteristic	Symbol	0°		25°		75°		Unit
		Min	Max	Min	Max	Min	Max	
Power Supply Current	I _E	—	157	—	143	—	157	mA
Input Current High Pins 5-8, 17-20 Pins 16, 21 Pin 9	I _{inH}	—	667	—	417	—	417	μA
		—	514	—	321	—	321	
		—	475	—	297	—	297	
Input Current Low	I _{inL}	0.5	—	0.5	—	0.3	—	μA
High Output Voltage	V _{OH}	-1.02	-0.84	-0.98	-0.81	-0.92	-0.735	Vdc
Low Output Voltage	V _{OL}	-1.95	-1.63	-1.95	-1.63	-1.95	-1.60	Vdc
High Input Voltage	V _{IH}	-1.17	-0.84	-1.13	-0.81	-1.07	-0.735	Vdc
Low Input Voltage	V _{IL}	-1.95	-1.48	-1.95	-1.48	-1.95	-1.45	Vdc

AC PARAMETERS

Parameter	Symbol	1.8	5.3	1.8	5.3	1.8	5.3	Unit
Propagation Delay Select-to-Input	t _{pd}	1.8	5.3	1.8	5.3	1.8	5.3	ns
Data-to-Bus Output Select-to-Bus Output		0.5	2.0	0.5	2.0	0.5	2.0	
OE-to-Bus Output		1.0	3.2	1.0	3.2	1.0	3.2	
Bus-to-Input		0.8	2.2	0.8	2.2	0.8	2.2	
RE-to-Input		0.8	2.1	0.8	2.1	0.8	2.4	
Data-to-Receiver Input		0.5	2.2	0.5	2.2	0.5	2.2	
Rise Time	t _r	1.3	4.0	1.3	4.0	1.3	4.0	ns
Fall Time	t _f	0.5	2.0	0.5	2.0	0.5	2.0	ns

MC10H330



L SUFFIX
CERAMIC PACKAGE
CASE 758-02

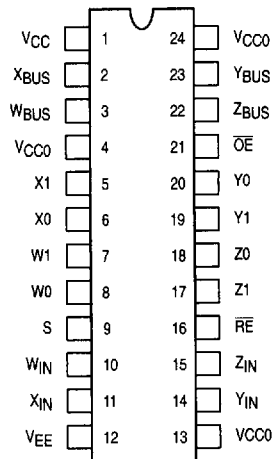


P SUFFIX
PLASTIC PACKAGE
CASE 724-03



FN SUFFIX
PLCC
CASE 776-02

DIP PIN ASSIGNMENT



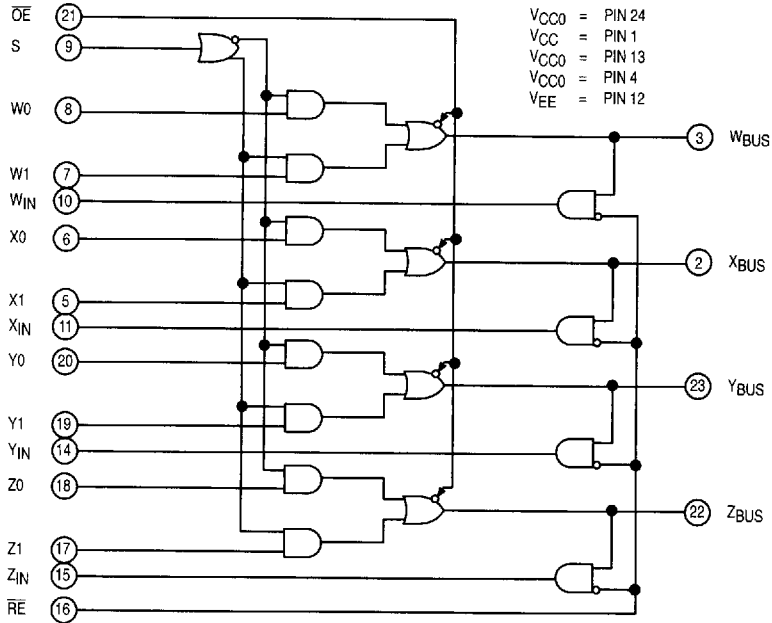
Pin assignment is for Dual-In-Line Package.
For PLCC pin assignment, see the Pin Conversion
Tables on page 6-11.

NOTE:

Each MECL 10H series circuit has been designed to meet the dc specifications shown in the test table, after thermal equilibrium has been established. The circuit is in a test socket or mounted on a printed circuit board and transverse air flow greater than 500 lpm is maintained. Receiver outputs are terminated through a 50-ohm resistor to -2.0 volts dc. Bus outputs are terminated through a 25-ohm resistor to -2.0 volts dc.



LOGIC DIAGRAM



MULTIPLEXER TRUTH TABLE

OE	S	WBus	XBus	YBus	ZBus
H	X	-2.0 V	-2.0 V	-2.0 V	-2.0 V
L	L	W0	X0	Y0	Z0
L	H	W1	X1	Y1	Z1

RECEIVER TRUTH TABLE

RE	Win	Xin	Yin	Zin
H	L	L	L	L
L	WBus	XBus	YBus	ZBus

2