

# Dual Bus Driver/Receiver with 4-to-1 Output Multiplexers

## MC10H332

The MC10H332 is a Dual Bus Driver/Receiver with four-to-one output multiplexers. These multiplexers have common selects and output enable. When disabled, ( $\overline{OE}$  = high) the bus outputs go to  $-2.0$  V. The parameters specified are with  $25 \Omega$  loading on the bus drivers and  $50 \Omega$  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



**L SUFFIX**  
CERAMIC PACKAGE  
CASE 732-03



**P SUFFIX**  
PLASTIC PACKAGE  
CASE 738-03



**FN SUFFIX**  
PLCC  
CASE 775-02

### MAXIMUM RATINGS

Characteristic	Symbol	Rating	Unit
Power Supply ( $V_{CC} = 0$ )	$V_{EE}$	-8.0 to 0	Vdc
Input Voltage ( $V_{CC} = 0$ )	$V_I$	0 to $V_{EE}$	Vdc
Output Current — Continuous	$I_{out}$	50	mA
— Surge		100	
Operating Temperature Range	$T_A$	0 to +75	$^{\circ}C$
Storage Temperature Range — Plastic	$T_{stg}$	-55 to +150	$^{\circ}C$
— Ceramic		-55 to +165	$^{\circ}C$

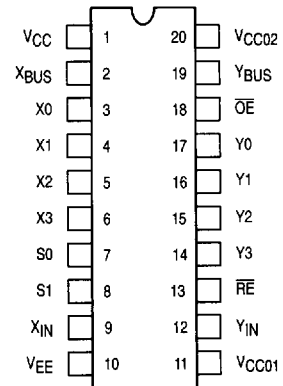
### ELECTRICAL CHARACTERISTICS ( $V_{EE} = -5.2$ V $\pm 5\%$ ) (See Note)

Characteristic	Symbol	0 $^{\circ}$		25 $^{\circ}$		75 $^{\circ}$		Unit
		Min	Max	Min	Max	Min	Max	
Power Supply Current	$I_E$	—	115	—	110	—	115	mA
Input Current High Pins 3,4,5,6,14, 15,16,17	$I_{inH}$	—	667	—	417	—	417	$\mu A$
Pins 7,8		—	437	—	273	—	273	
Pins 13, 18		—	456	—	285	—	285	
Input Current Low	$I_{inL}$	0.5	—	0.5	—	0.3	—	$\mu A$
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

Characteristic	Symbol	0.8	3.0	0.8	3.0	0.8	3.2	ns
Propagation Delay Data-to-Bus Output	$t_{pd}$	0.8	3.0	0.8	3.0	0.8	3.2	ns
Select-to-Bus								
Output		0.8	3.4	0.8	3.4	0.8	3.8	
$\overline{OE}$ -to-Bus Output		0.8	2.4	0.8	2.4	0.8	2.6	
Bus-to-Receiver		0.8	2.1	0.8	2.1	0.8	2.4	
Select-to-Receiver		1.8	4.5	1.8	4.5	1.8	5.0	
RE-to-Receiver		0.8	2.2	0.8	2.2	0.8	2.5	
Data-to-Receiver		1.3	4.0	1.3	4.0	1.3	4.5	
Rise Time	$t_r$	0.5	2.0	0.5	2.0	0.5	2.1	ns
Fall Time	$t_f$	0.5	2.0	0.5	2.0	0.5	2.1	ns

### DIP & PLCC 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.



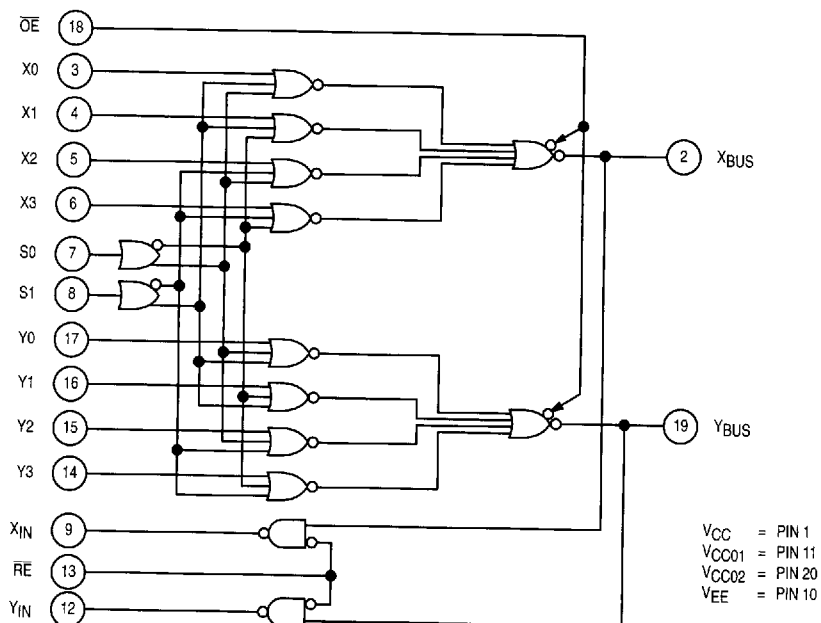
MULTIPLEXER TRUTH TABLE

OE	S1	S0	X <sub>Bus</sub>	Y <sub>Bus</sub>
H	X	X	-2.0V	-2.0V
L	L	L	X0	Y0
L	L	H	X1	Y1
L	H	L	X2	Y2
L	H	H	X3	Y3

RECEIVER TRUTH TABLE

RE	X <sub>in</sub>	Y <sub>in</sub>
H	L	L
L	X <sub>Bus</sub>	Y <sub>Bus</sub>

LOGIC DIAGRAM



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