

Quad Bus Driver/Receiver with Transmit and Receiver Latches

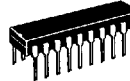
MC10H334

The MC10H334 is a Quad Bus Driver/Receiver with transmit and receiver latches. When disabled, (\overline{OE} = high) the bus outputs will fall to -2.0 V. Data to be transmitted or received is passed through its respective latch when the respective latch enable (\overline{DLE} and \overline{RLE}) is at a low level. Information is latched on the positive transition of \overline{DLE} and \overline{RLE} . The parameters specified are with 25Ω loading on the bus drivers and 50Ω loads on the receivers.

- Propagation Delay, 1.6 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

2

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 $+165$	$^{\circ}C$

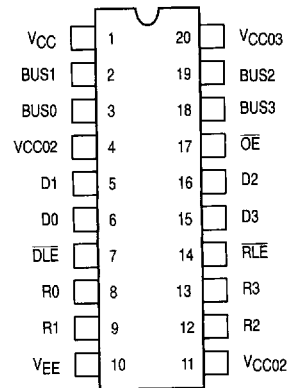
ELECTRICAL CHARACTERISTICS ($V_{EE} = -5.2$ V $\pm 5\%$) (See Note)

Characteristic	Symbol	0 $^{\circ}$		25 $^{\circ}$		75 $^{\circ}$		Unit
		Min	Max	Min	Max	Min	Max	
Power Supply Current	I_E	—	161	—	161	—	161	mA
Input Current High Pins 5,6,15,16 Pins 7,14 Pin 17	I_{inH}	—	397	—	273	—	273	μA
		—	460	—	297	—	297	
		—	520	—	357	—	357	
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

Characteristic	Symbol	0.5	2.5	0.5	2.5	0.5	2.5	ns
Propagation Delay Data-to-Bus Output	t_{pd}	0.5	2.5	0.5	2.5	0.5	2.5	
DLE-to-Bus Output		1.0	2.7	1.0	2.7	1.0	2.7	
\overline{OE} -to-Bus Output		0.5	2.5	0.5	2.5	0.5	2.5	
Bus-to-R0		0.5	1.9	0.5	1.9	0.5	1.9	
\overline{RLE} -to-R0		0.5	2.1	0.5	2.1	0.5	2.1	
Data-to-Receiver R0		1.0	3.8	1.0	3.8	1.0	3.8	
Rise Time	t_r	0.5	2.2	0.5	2.2	0.5	2.2	ns
Fall Time	t_f	0.5	2.2	0.5	2.2	0.5	2.2	ns

DIP & PLCC PIN ASSIGNMENT



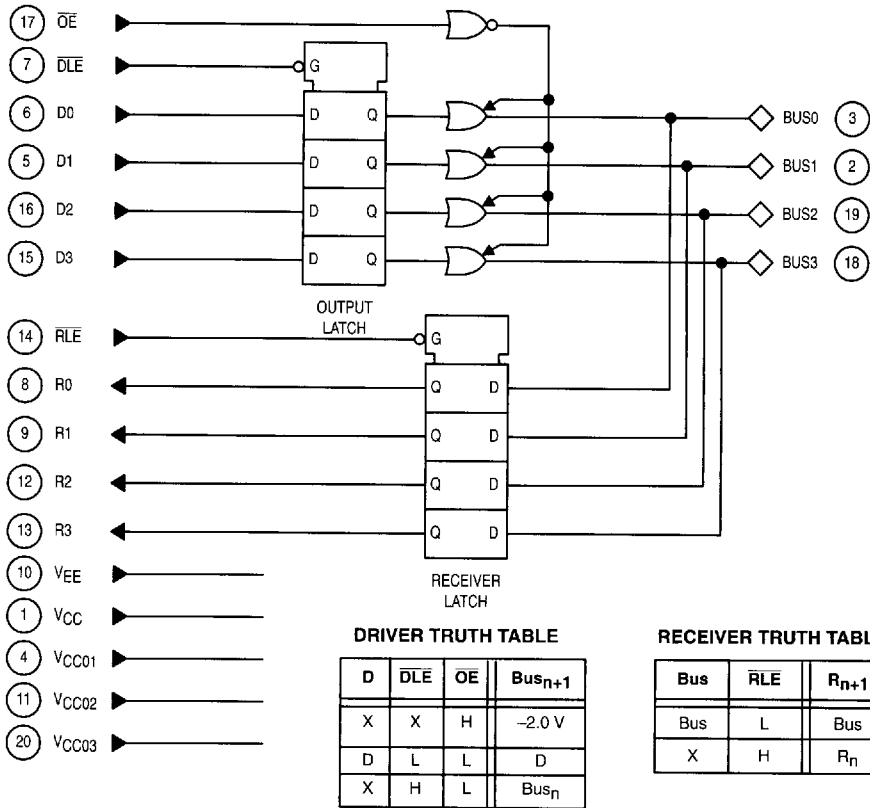
Pin assignment is for Dual-in-Line Package.
For PLCC pin assignment, see the Pin Conversion
Tables on page 6-11.

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.



LOGIC DIAGRAM



2

DRIVER TRUTH TABLE

D	\overline{DLE}	\overline{OE}	Bus_{n+1}
X	X	H	-2.0 V
D	L	L	D
X	H	L	Bus_n

RECEIVER TRUTH TABLE

Bus	\overline{RLE}	R_{n+1}
Bus	L	Bus
X	H	R_n