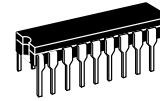


Dual Bus Driver/Receiver with 4-to-1 Output Multiplexers

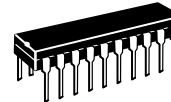
MC10H332

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

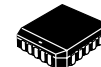
- Propagation Delay, 1.5 ns Typical Data-to-Output
- Improved Noise Margin 150 mV (Over Operating Voltage and Temperature Range)
- Voltage Compensated
- MECL 10K-Compatible



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 — Surge	I_{out}	50 100	mA
Operating Temperature Range	T_A	0 to +75	°C
Storage Temperature Range — Plastic — Ceramic	T_{stg}	-55 to +150 -55 to +165	°C °C

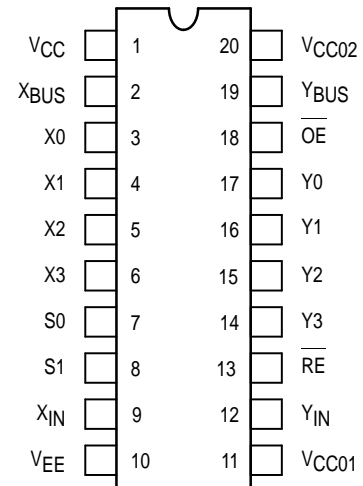
ELECTRICAL CHARACTERISTICS ($V_{EE} = -5.2 \text{ V} \pm 5\%$) (See Note)

Characteristic	Symbol	0°		25°		75°		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 Pins 7,8 Pins 13, 18	I_{inH}	—	667 437 456	—	417 273 285	—	417 273 285	μA
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

Propagation Delay Data-to-Bus Output Select-to-Bus — Output	t_{pd}	0.8	3.0	0.8	3.0	0.8	3.2	ns
OE-to-Bus Output		0.8	3.4	0.8	3.4	0.8	3.8	
Bus-to-Receiver		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 of the Motorola MECL Data Book (DL122/D).

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 lfm 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.



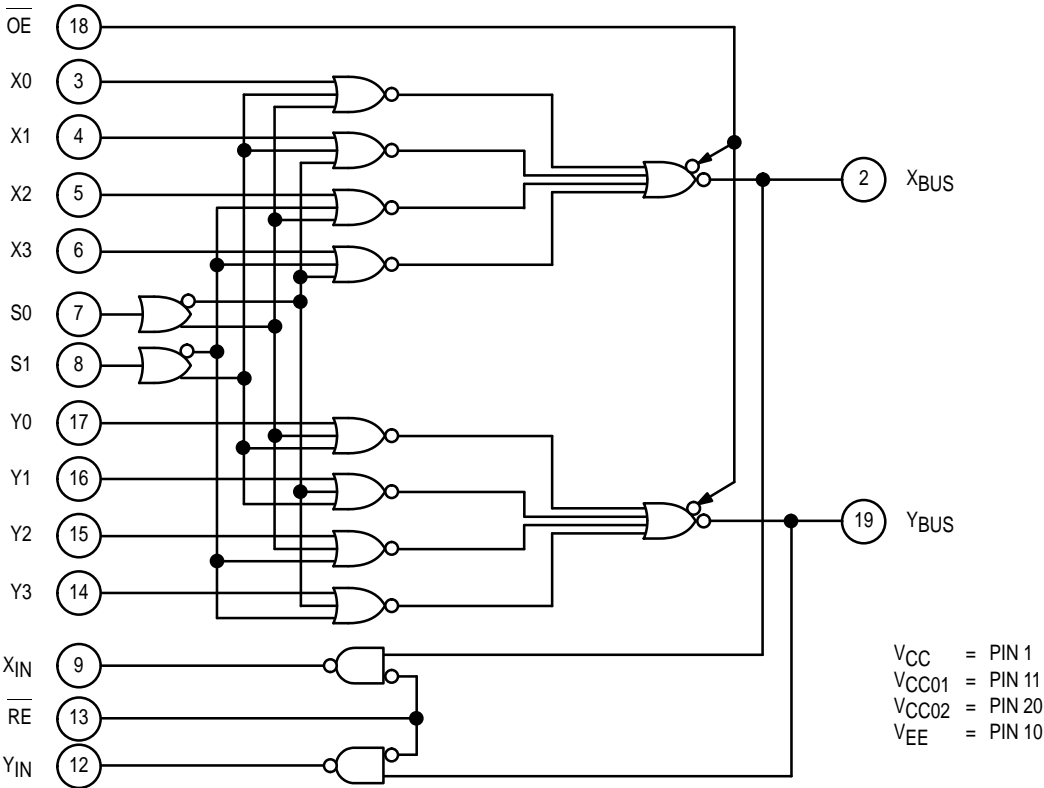
MULTIPLEXER TRUTH TABLE

OE	S1	S0	X _{Bus}	Y _{Bus}
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

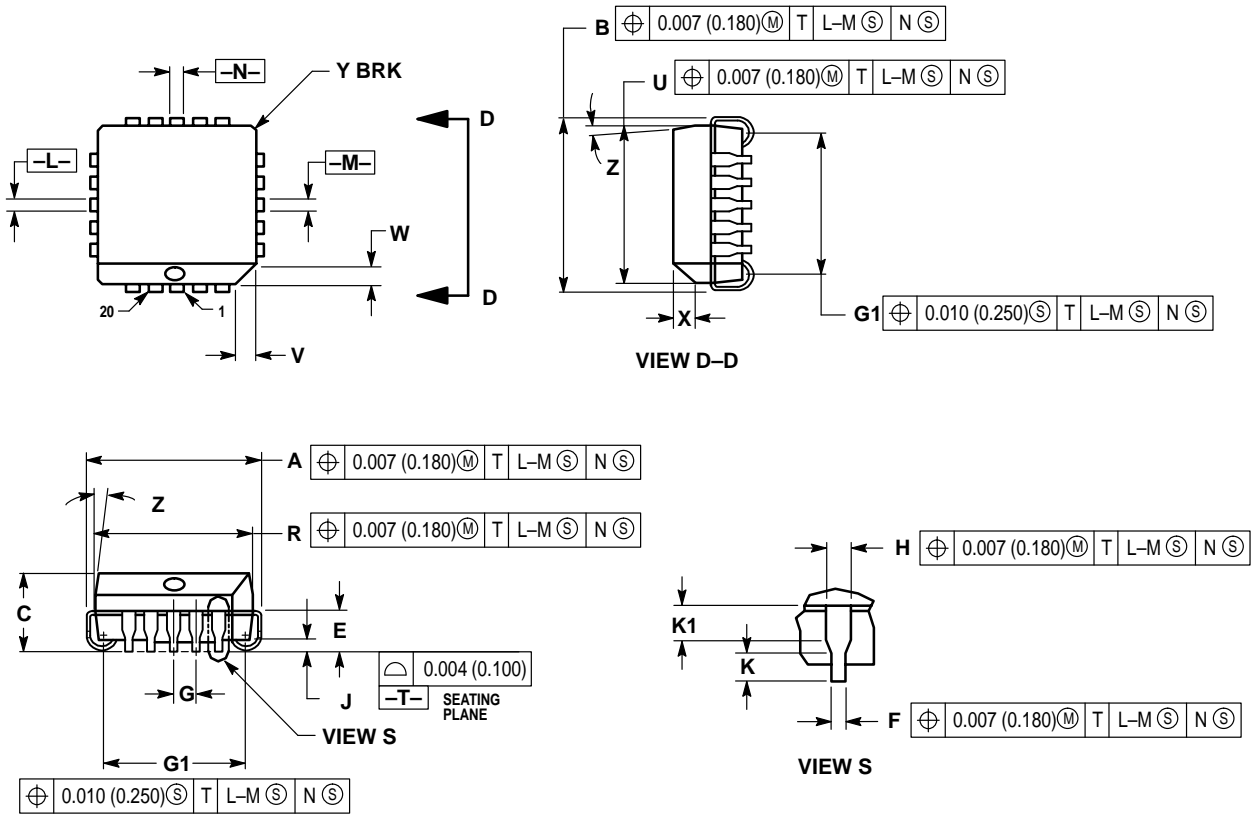
RE	X _{in}	Y _{in}
H	L	L
L	X _{Bus}	Y _{Bus}

LOGIC DIAGRAM



OUTLINE DIMENSIONS

FN SUFFIX
PLASTIC PLCC PACKAGE
CASE 775-02
ISSUE C

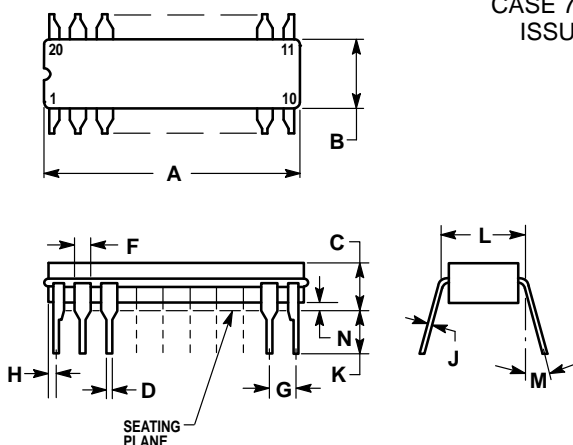


- NOTES:
1. DATUMS -L-, -M-, AND -N- DETERMINED WHERE TOP OF LEAD SHOULDER EXITS PLASTIC BODY AT MOLD PARTING LINE.
 2. DIMENSION G1, TRUE POSITION TO BE MEASURED AT DATUM -T-, SEATING PLANE.
 3. DIMENSIONS R AND U DO NOT INCLUDE MOLD FLASH. ALLOWABLE MOLD FLASH IS 0.010 (0.250) PER SIDE.
 4. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
 5. CONTROLLING DIMENSION: INCH.
 6. THE PACKAGE TOP MAY BE SMALLER THAN THE PACKAGE BOTTOM BY UP TO 0.012 (0.300). DIMENSIONS R AND U ARE DETERMINED AT THE OUTERMOST EXTREMES OF THE PLASTIC BODY EXCLUSIVE OF MOLD FLASH, TIE BAR BURRS, GATE BURRS AND INTERLEAD FLASH, BUT INCLUDING ANY MISMATCH BETWEEN THE TOP AND BOTTOM OF THE PLASTIC BODY.
 7. DIMENSION H DOES NOT INCLUDE DAMBAR PROTRUSION OR INTRUSION. THE DAMBAR PROTRUSION(S) SHALL NOT CAUSE THE H DIMENSION TO BE GREATER THAN 0.037 (0.940). THE DAMBAR INTRUSION(S) SHALL NOT CAUSE THE H DIMENSION TO BE SMALLER THAN 0.025 (0.635).

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.385	0.395	9.78	10.03
B	0.385	0.395	9.78	10.03
C	0.165	0.180	4.20	4.57
E	0.090	0.110	2.29	2.79
F	0.013	0.019	0.33	0.48
G	0.050 BSC		1.27 BSC	
H	0.026	0.032	0.66	0.81
J	0.020	—	0.51	—
K	0.025	—	0.64	—
R	0.350	0.356	8.89	9.04
U	0.350	0.356	8.89	9.04
V	0.042	0.048	1.07	1.21
W	0.042	0.048	1.07	1.21
X	0.042	0.056	1.07	1.42
Y	—	0.020	—	0.50
Z	2 °	10 °	2 °	10 °
G1	0.310	0.330	7.88	8.38
K1	0.040	—	1.02	—

OUTLINE DIMENSIONS

L SUFFIX
CERAMIC DIP PACKAGE
CASE 732-03
ISSUE E

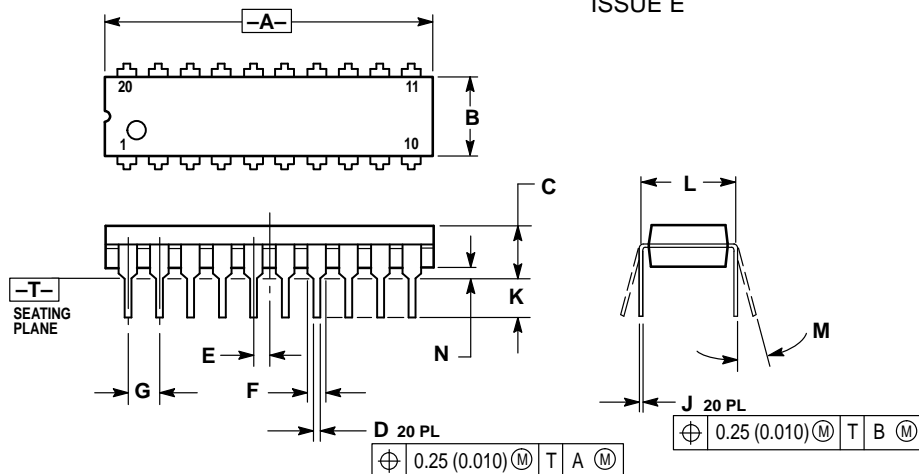


NOTES:

- LEADS WITHIN 0.010 DIAMETER, TRUE POSITION AT SEATING PLANE, AT MAXIMUM MATERIAL CONDITION.
- DIMENSION L TO CENTER OF LEADS WHEN FORMED PARALLEL.
- DIMENSIONS A AND B INCLUDE MENISCUS.

DIM	INCHES	
	MIN	MAX
A	0.940	0.990
B	0.260	0.295
C	0.150	0.200
D	0.015	0.022
F	0.055	0.065
G	0.100 BSC	
H	0.020	0.050
J	0.008	0.012
K	0.125	0.160
L	0.300 BSC	
M	0° 15°	
N	0.010	0.040

P SUFFIX
PLASTIC DIP PACKAGE
CASE 738-03
ISSUE E



NOTES:

- DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
- CONTROLLING DIMENSION: INCH.
- DIMENSION L TO CENTER OF LEAD WHEN FORMED PARALLEL.
- DIMENSION B DOES NOT INCLUDE MOLD FLASH.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	1.010	1.070	25.66	27.17
B	0.240	0.260	6.10	6.60
C	0.150	0.180	3.81	4.57
D	0.015	0.022	0.39	0.55
E	0.050 BSC		1.27 BSC	
F	0.050	0.070	1.27	1.77
G	0.100 BSC		2.54 BSC	
J	0.008	0.015	0.21	0.38
K	0.110	0.140	2.80	3.55
L	0.300 BSC		7.62 BSC	
M	0° 15°		0° 15°	
N	0.020	0.040	0.51	1.01

Motorola reserves the right to make changes without further notice to any products herein. Motorola makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does Motorola assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation consequential or incidental damages. "Typical" parameters which may be provided in Motorola data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. All operating parameters, including "Typicals" must be validated for each customer application by customer's technical experts. Motorola does not convey any license under its patent rights nor the rights of others. Motorola products are not designed, intended, or authorized for use as components in systems intended for surgical implant into the body, or other applications intended to support or sustain life, or for any other application in which the failure of the Motorola product could create a situation where personal injury or death may occur. Should Buyer purchase or use Motorola products for any such unintended or unauthorized application, Buyer shall indemnify and hold Motorola and its officers, employees, subsidiaries, affiliates, and distributors harmless against all claims, costs, damages, and expenses, and reasonable attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized use, even if such claim alleges that Motorola was negligent regarding the design or manufacture of the part. Motorola and \textcircled{M} are registered trademarks of Motorola, Inc. Motorola, Inc. is an Equal Opportunity/Affirmative Action Employer.

How to reach us:

USA/EUROPE/Locations Not Listed: Motorola Literature Distribution;
P.O. Box 5405; Denver, Colorado 80217. 1-800-441-2447

MFAX: RMFA00@email.sps.mot.com – TOUCHTONE 602-244-6609
INTERNET: http://Design-NET.com

JAPAN: Nippon Motorola Ltd.; Tatsumi-SPD-JLDC, 6F Seibu-Butsuryu-Center,
3-14-2 Tatsumi Koto-Ku, Tokyo 135, Japan. 81-3-3521-8315

ASIA/PACIFIC: Motorola Semiconductors H.K. Ltd.; 8B Tai Ping Industrial Park,
51 Ting Kok Road, Tai Po, N.T., Hong Kong. 852-26629298