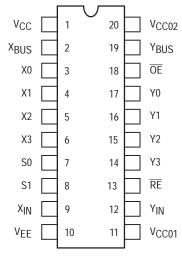
# Dual Bus Driver/Receiver with 4-to-1 Output Multiplexers

The MC10H332 is a Dual Bus Driver/Receiver with four–to–one output multiplexers. These multiplexers have common selects and output enable. When disabled,  $(\overline{OE} = \text{high})$  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

#### DIP & PLCC PIN ASSIGNMENT



Pin assignment is for Dual–in–Line Package.
For PLCC pin assignment, see the Pin Conversion Tables on page 18 of the ON Semiconductor 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 lfpm 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.



http://onsemi.com

#### MARKING DIAGRAMS



CDIP-20 L SUFFIX CASE 732





PDIP-20 P SUFFIX CASE 738





PLCC-20 FN SUFFIX CASE 775



A = Assembly Location

WL = Wafer Lot

YY = Year

WW = Work Week

#### **ORDERING INFORMATION**

Device	Package	Shipping
MC10H332L	CDIP-20	18 Units/Rail
MC10H332P	PDIP-20	18 Units/Rail
MC10H332FN	PLCC-20	46 Units/Rail

#### **MAXIMUM RATINGS**

Symbol	Characteristic	Rating	Unit
VEE	Power Supply (V <sub>CC</sub> = 0)	-8.0 to 0	Vdc
VI	Input Voltage (V <sub>CC</sub> = 0)	0 to VEE	Vdc
l <sub>out</sub>	Output Current – Continuous – Surge	50 100	mA
TA	Operating Temperature Range	0 to +75	°C
T <sub>stg</sub>	Storage Temperature Range – Plastic – Ceramic	−55 to +150 −55 to +165	°C °C

### **ELECTRICAL CHARACTERISTICS** ( $V_{EE} = -5.2 \text{ V} \pm 5\%$ ) (See Note 1.)

		0	0	2	5°	7	75°	
Symbol	Characteristic	Min	Max	Min	Max	Min	Max	Unit
ΙE	Power Supply Current	_	115	_	110	-	115	mA
l <sub>inH</sub>	Input Current High Pins 3,4,5,6,14, 15,16,17 Pins 7,8 Pins 13, 18		667 437 456		417 273 285		417 273 285	μА
l <sub>inL</sub>	Input Current Low	0.5	_	0.5	_	0.3	-	μΑ
Vон	High Output Voltage	-1.02	-0.84	-0.98	-0.81	-0.92	-0.735	Vdc
V <sub>OL</sub>	Low Output Voltage	-1.95	-1.63	-1.95	-1.63	-1.95	-1.60	Vdc
VIH	High Input Voltage	-1.17	-0.84	-1.13	-0.81	-1.07	-0.735	Vdc
VIL	Low Input Voltage	-1.95	-1.48	-1.95	-1.48	-1.95	-1.45	Vdc

#### **AC PARAMETERS**

<sup>t</sup> pd	Propagation Delay Data-to-Bus Output Select-to-Bus	0.8	3.0	0.8	3.0	0.8	3.2	ns
	Output	0.8	3.4	0.8	3.4	0.8	3.8	
	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	
t <sub>r</sub>	Rise Time	0.5	2.0	0.5	2.0	0.5	2.1	ns
t <sub>f</sub>	Fall Time	0.5	2.0	0.5	2.0	0.5	2.1	ns

<sup>1.</sup> 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 Ifpm is maintained. Outputs are terminated through a 50–ohm resistor to –2.0 volts.

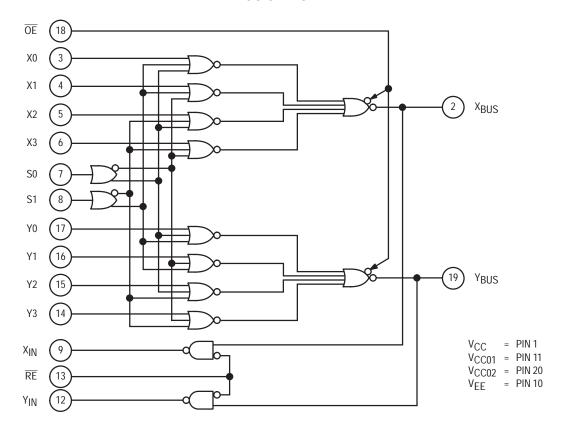
#### **MULTIPLEXER TRUTH TABLE**

OE	<b>S</b> 1	S0	X <sub>Bus</sub>	Y <sub>Bus</sub>
H L L	X L L H	X L H L	-2.0V X0 X1 X2 X3	-2.0V Y0 Y1 Y2 Y3

# RECEIVER TRUTH TABLE

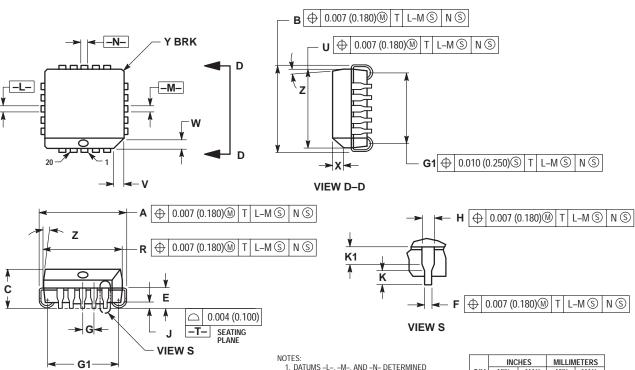
RE	Xin	Yin
Н	L	L
L	X <sub>Bus</sub>	Y <sub>Bus</sub>

#### **LOGIC DIAGRAM**



#### **PACKAGE DIMENSIONS**

#### PLCC-20 **FN SUFFIX** PLASTIC PLCC PACKAGE CASE 775-02 **ISSUE C**



⊕ 0.010 (0.250)⑤ T L-M ⑤ N ⑤

- 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
- 4. DIMENSIONING AND TOLERANCING FER 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
- INCLUDING ANY MISMAICH BE I WEEN THE TOP AND BOTTOM OF THE PLASTIC BODY.

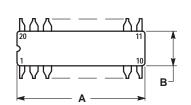
  7. DIMENSION H DOES NOT INCLUDE DAMBAR PROTRUSION OR INTRUSION. THE DAMBAR PROTRUSION(S) SHALL NOT CAUSE THE H DIMENSION TO BE GREATER THAN 0.037 (0.940). THE DAMBAR INTRUSION(S) SHALL NOT CAUSE THE H DIMENSION TO BE SMALLER THAN 0.025 (0.635).

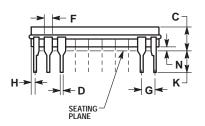
	INC	HES	MILLIN	IETERS
DIM	MIN	MAX	MIN	MAX
Α	0.385	0.395	9.78	10.03
В	0.385	0.395	9.78	10.03
С	0.165	0.180	4.20	4.57
Ε	0.090	0.110	2.29	2.79
F	0.013	0.019	0.33	0.48
G	0.050	BSC	1.27	BSC
Н	0.026	0.032	0.66	0.81
J	0.020		0.51	
K	0.025		0.64	
R	0.350	0.356	8.89	9.04
U	0.350	0.356	8.89	9.04
٧	0.042	0.048	1.07	1.21
W	0.042	0.048	1.07	1.21
Х	0.042	0.056	1.07	1.42
Υ		0.020		0.50
Z	2°	10°	2°	10°
G1	0.310	0.330	7.88	8.38
K1	0.040		1.02	

#### **PACKAGE DIMENSIONS**

#### CDIP-20 **L SUFFIX** CERAMIC DIP PACKAGE CASE 732-03 ISSUE E

PDIP-20

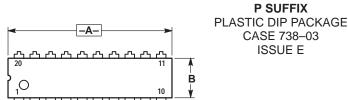


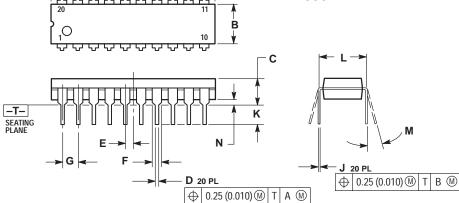




- NOTES:
  1. LEADS WITHIN 0.010 DIAMETER, TRUE
  POSITION AT SEATING PLANE, AT MAXIMUM
  MATERIAL CONDITION.
  2. DIMENSION L TO CENTER OF LEADS WHEN
  FORMED PARALLEL.
  3. DIMENSIONS A AND B INCLUDE MENISCUS.

	INC	HES		
DIM	MIN	MAX		
Α	0.940	0.990		
В	0.260	0.295		
С	0.150	0.200		
D	0.015	0.022		
F	0.055	0.065		
G	0.100	BSC		
Н	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		





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

	INC	HES	MILLIN	IETERS	
DIM	MIN	MAX	MIN	MAX	
Α	1.010	1.070	25.66	27.17	
В	0.240	0.260	6.10	6.60	
С	0.150	0.180	3.81	4.57	
D	0.015	0.022	0.39	0.55	
Е	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	

# **Notes**

# **Notes**

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