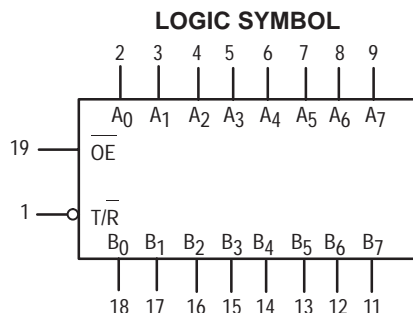
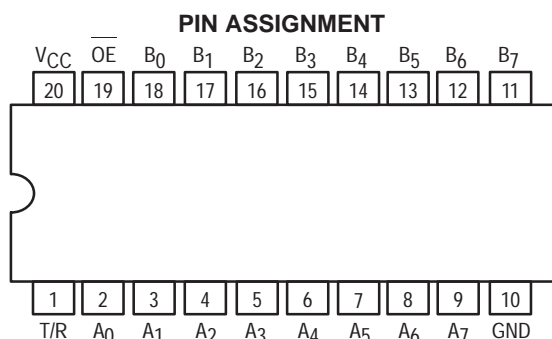




OCTAL BIDIRECTIONAL TRANSCEIVER WITH 3-STATE INPUTS/OUTPUTS

The MC74F1245 contains eight noninverting bidirectional buffers with 3-state outputs and is intended for bus-oriented applications. Current sinking capability is 24 mA at the A ports and 64 mA at the B ports. The Transmit/Receive (T/R) input determines the direction of data flow through the bidirectional transceiver. Transmit (active HIGH) enables data from A ports to B ports; Receive (active LOW) enables data from B ports to A ports. The Output Enable input, when HIGH, disables both A and B ports by placing them in a high-Z condition.

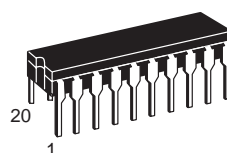
- Noninverting Buffers
- Bidirectional Data Path
- B Outputs Sink 64 mA
- High Impedance Inputs for Reduced Loading
- Same Function and Pinout as the F245
- ESD Protection > 4000 Volts



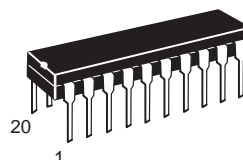
MC74F1245

OCTAL BIDIRECTIONAL
TRANSCEIVER WITH 3-STATE
INPUTS/OUTPUTS

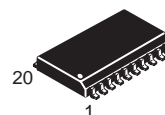
FAST™ SCHOTTKY TTL



J SUFFIX
CERAMIC
CASE 732-03



N SUFFIX
PLASTIC
CASE 738-03



DW SUFFIX
SOIC
CASE 751D-03

ORDERING INFORMATION

MC74FXXXXJ Ceramic
MC74FXXXXN Plastic
MC74FXXXXDW SOIC

GUARANTEED OPERATING RANGES

Symbol	Parameter		Min	Typ	Max	Unit
V _{CC}	DC Supply Voltage	74	4.5	5.0	5.5	V
T _A	Operating Ambient Temperature Range	74	0	25	70	°C
I _{OH}	Output Current — High	A _n Outputs	74	—	—	mA
I _{OL}	Output Current — Low	A _n Outputs	74	—	—	mA
I _{OH}	Output Current — High	B _n Outputs	74	—	—	mA
I _{OL}	Output Current — Low	B _n Outputs	74	—	—	mA

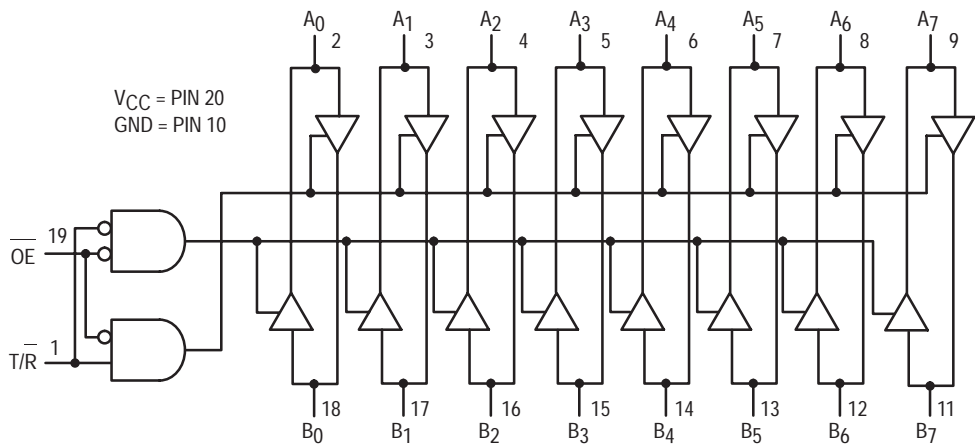
MC74F1245

FUNCTION TABLE

Inputs		Inputs/Outputs	
OE	T/R	A _n	B _n
L	L	A = B	Inputs
L	H	Inputs	B = A
H	X	Z	Z

H = HIGH voltage level; L = LOW voltage level; X = Don't care; Z = HIGH impedance "off" state.

LOGIC DIAGRAM



MC74F1245

DC CHARACTERISTICS OVER OPERATING TEMPERATURE RANGE (unless otherwise specified)

Symbol	Parameter		Limits			Unit	Test Conditions (Note 1)	
			Min	Typ	Max			
V _{IH}	Input HIGH Voltage		2.0	—	—	V	Guaranteed Input HIGH Voltage	
V _{IL}	Input LOW Voltage		—	—	0.8	V	Guaranteed Input LOW Voltage	
V _{IK}	Input Clamp Diode Voltage		—	−0.73	−1.2	V	V _{CC} = MIN, I _{IN} = −18 mA	
V _{OH}	Output HIGH Voltage A _n Outputs	74	2.4	3.3	—	V	I _{OH} = −3.0 mA	V _{CC} = 4.5 V
		74	2.7	3.3	—	V		V _{CC} = 4.75 V
V _{OH}	Output HIGH Voltage B _n Outputs	74	2.4	3.4	—	V	I _{OH} = −3.0 mA	V _{CC} = 4.5 V
		74	2.7	3.4	—	V		V _{CC} = 4.75 V
		74	2.0	—	—	V	I _{OH} = −15 mA	V _{CC} = 4.5 V
V _{OL}	Output LOW Voltage A _n Outputs	74	—	0.35	0.5	V	I _{OL} = 24 mA	V _{CC} = MIN
V _{OL}	Output LOW Voltage B _n Outputs	74	—	—	0.55	V	I _{OL} = 64 mA	
I _{OZH}	Output Off Current HIGH		—	—	70	μA	V _{CC} = MAX	V _{OUT} = 2.7 V
I _{OZL}	Output Off Current LOW		—	—	−70	μA	V _{CC} = MAX, V _{OUT} = 0.5 V	
I _{IH}	Input HIGH Current	OE, T/R Inputs	—	—	40	μA	V _{CC} = MAX, V _{IN} = 2.7 V	
		A _n , B _n Inputs	—	—	70	μA	V _{CC} = MAX, V _{IN} = 2.7 V	
		OE, T/R Inputs	—	—	100	μA	V _{CC} = 0 V, V _{IN} = 7.0 V	
		B _n Inputs	—	—	1.0	mA	V _{CC} = 0 V, V _{IN} = 5.5 V	
I _{IHH}	Input HIGH Current	A _n Inputs	—	—	2.0	mA	V _{CC} = 0 V, V _{IN} = 5.5 V	
I _{IL}	Input LOW Current	OE, T/R Inputs	—	—	−40	μA	V _{CC} = MAX, V _{IN} = 0.5 V	
		A _n , B _n Inputs	—	—	−70	μA		
I _{OS}	Output Short Circuit Current (Note 2)	A _n Outputs	−60	—	−150	mA	V _{CC} = MAX, V _{OUT} = GND	
		B _n Outputs	−100	—	−225	mA		
I _{CC}	Power Supply Current	I _{CC} H	—	—	120	mA	V _{CC} = MAX	
		I _{CC} L	—	—	120			
		I _{CC} Z	—	—	130			


NOTES:

- For conditions shown as MIN or MAX, use the appropriate value specified under recommended operating conditions for the applicable device type.
- Not more than one output should be shorted at a time, nor for more than 1 second.

AC ELECTRICAL CHARACTERISTICS

Symbol	Parameter	74F		74F		Unit
		T _A = +25°C V _{CC} = +5.0 V C _L = 50 pF		T _A = 0°C to +70°C V _{CC} = +5.0 V ±10% C _L = 50 pF		
		Min	Max	Min	Max	
t _{PLH}	Propagation Delay	2.0	6.5	1.5	7.0	ns
t _{PHL}	Transparent Mode A _n to B _n or B _n to A _n	2.5	7.5	2.0	8.0	
t _{PZH}	Output Enable Time	3.0	8.0	2.5	9.0	ns
t _{PZL}		4.0	10.0	3.5	11.0	
t _{PHZ}	Output Disable Time	2.0	8.0	1.5	9.0	ns
t _{PLZ}		1.0	10.0	1.0	11.0	

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