

54F/74F245

Octal Bidirectional Transceiver With 3-State Inputs/Outputs

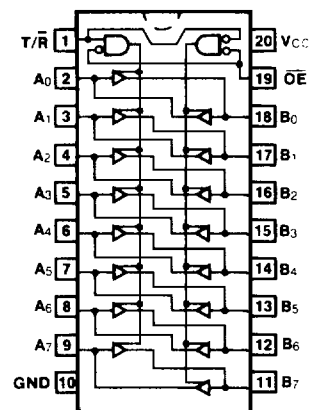
Description

The 'F245 contains eight non-inverting bidirectional buffers with 3-state outputs and is intended for bus-oriented applications. Current sinking capability is 20 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.

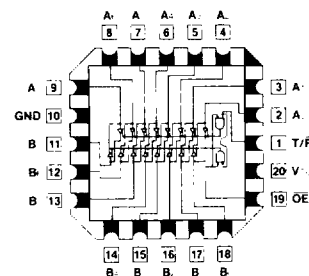
- Non-Inverting Buffers
- Bidirectional Data Path
- B Outputs Sink 64 mA

Ordering Code: See Section 5

Connection Diagrams



**Pin Assignment
for DIP and SOIC**



**Pin Assignment
for LCC and PCC**

Input Loading/Fan-Out: See Section 3 for U.L. definitions

Pin Names	Description	54F/74F(U.L.) HIGH/LOW
OE	Output Enable Input (Active LOW)	0.5/0.75
T/R	Transmit/Receive Input	0.5/0.75
A ₀ -A ₇	Side A 3-State Inputs	1.75/0.406
	3-State Outputs	75/15 (12.5)
B ₀ -B ₇	Side B 3-State Inputs or	1.75/0.406
	3-State Outputs	75/40 (30)

Truth Table

Inputs		Output
\overline{OE}	T/ \overline{R}	
L	L	Bus B Data to Bus A
L	H	Bus A Data to Bus B
H	X	High Z State

H = HIGH Voltage Level

L = LOW Voltage Level

X = Immaterial

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DC Characteristics over Operating Temperature Range (unless otherwise specified)

Symbol	Parameter	54F/74F			Units	Conditions
		Min	Typ	Max		
I_{CCH} I_{CCL} I_{CCZ}	Power Supply Current		70 95 85	90 120 110	mA	$V_{CC} = \text{Max}$

AC Characteristics: See Section 3 for waveforms and load configurations

Symbol	Parameter	54F/74F			54F		74F		Units	Fig. No.
		$T_A = +25^\circ\text{C}$ $V_{CC} = +5.0\text{ V}$ $C_L = 50\text{ pF}$			$T_A, V_{CC} = \text{Mil}$ $C_L = 50\text{ pF}$		$T_A, V_{CC} = \text{Com}$ $C_L = 50\text{ pF}$			
		Min	Typ	Max	Min	Max	Min	Max		
t_{PLH} t_{PHL}	Propagation Delay A_n to B_n or B_n to A_n	2.5	4.2	6.0	2.0	7.5	2.5	7.0	ns	3-1 3-4
t_{PZH} t_{PZL}	Output Enable Time	3.0	5.3	7.0	2.5	9.0	3.0	8.0	ns	3-1 3-12 3-13
t_{PHZ} t_{PLZ}	Output Disable Time	3.0	5.0	6.5	2.5	9.0	3.0	7.5		