

✓ **54LS/74LS245** 016710
OCTAL BUS TRANSCEIVER
 (With 3-State Outputs)

DESCRIPTION — The 'LS245 is an octal bus transmitter/receiver designed for 8-line asynchronous 2-way data communication between data busses. Direction input (DR) controls transmission of data from bus A to bus B or bus B to bus A depending upon its logic level. The Enable input (\bar{E}) can be used to isolate the busses.

- **HYSTERESIS INPUTS TO IMPROVE NOISE IMMUNITY**
- **2-WAY ASYNCHRONOUS DATA BUS COMMUNICATION**
- **INPUT DIODES LIMIT HIGH SPEED TERMINATION EFFECTS**
- **FULLY TTL AND CMOS COMPATIBLE**

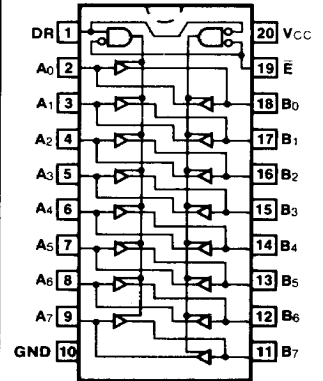
ORDERING CODE: See Section 9

PKGS	PIN OUT	COMMERCIAL GRADE	MILITARY GRADE	PKG TYPE
		V _{CC} = +5.0 V ±5%, T _A = 0°C to +70°C	V _{CC} = +5.0 V ±10%, T _A = -55°C to +125°C	
Plastic DIP (P)	A	74LS245PC		9Z
Ceramic DIP (D)	A	74LS245DC	54LS245DM	4E
Flatpak (F)	A	74LS245FC	54LS245FM	4F

INPUT LOADING/FAN-OUT: See Section 3 for U.L. definitions

PINS	54/74LS (U.L.) HIGH/LOW
Inputs	0.5/0.125
Outputs	75/15 (7.5)

CONNECTION DIAGRAM
PINOUT A



TRUTH TABLE

INPUTS		OUTPUT
\bar{E}	DR	
L	L	Bus B Data to Bus A
L	H	Bus A Data to Bus B
H	X	Isolation

H = HIGH Voltage Level
 L = LOW Voltage Level
 X = Immaterial

DC CHARACTERISTICS OVER OPERATING TEMPERATURE RANGE (unless otherwise specified)

SYMBOL	PARAMETER		54/74LS		UNITS	CONDITIONS	
			Min	Max			
VOH	Output HIGH Voltage	XM	2.0		V	I _{OH} = -12 mA I _{OH} = -15 mA	V _{CC} = Min V _{IN} = V _{IH} or V _{IL} per Truth Table
		XC	2.0				
VOH	Output HIGH Voltage		2.4		V	I _{OH} = -3.0 mA, V _{CC} = Min V _{IN} = V _{IH} or V _{IL} per Truth Table	
V _{T+} - V _{T-}	Hysteresis Voltage		0.2		V	V _{CC} = Min	
I _{OS}	Output Short Circuit Current		-40	-225	mA	V _{CC} = Max, V _{OUT} = 0 V	
I _{CC}	Power Supply Current	HIGH		70	mA	V _{CC} = Max	
		LOW		90			
		OFF		95			

AC CHARACTERISTICS: V_{CC} = +5.0 V, T_A = +25°C (See Section 3 for waveforms and load configurations)

SYMBOL	PARAMETER		54/74LS		UNITS	CONDITIONS	
			C _L = 45 pF				
			Min	Max			
t _{PLH} t _{PHL}	Propagation Delay Data to Output		18	18	ns	Figs. 3-1, 3-5	
t _{PZH} t _{PZL}	Output Enable Time		25	30	ns	Figs. 3-3, 3-11, 3-12 R _L = 667 Ω	
t _{PLZ} t _{PHZ}	Output Disable Time		25	18	ns	Figs. 3-3, 3-11, 3-12 R _L = 667 Ω, C _L = 5 pF	