

**TYPES SN54AS2640, SN54AS2645
SN74AS2640, SN74AS2645
OCTAL BUS TRANSCEIVER/MOS DRIVER**
DECEMBER 1983

- Bidirectional Octal Bus Transceivers For Driving MOS Devices
- I/O Ports Have 25 Ohm Series Resistors So No External Resistors Are Required
- Choice of True or Inverting Logic
- Dependable Texas Instruments Quality and Reliability

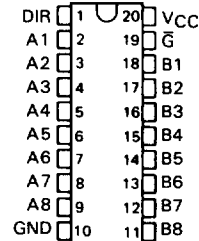
description

These octal bus transceivers are designed to drive the capacitive input characteristics of MOS devices and allow asynchronous two-way communication between data buses. The control function implementation allows for maximum flexibility in timing.

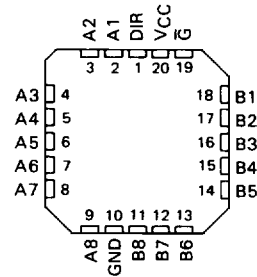
The devices transmit data from the A bus to the B bus or from the B bus to the A bus depending upon the level at the direction control (DIR) input. The enable input (\bar{G}) can be used to disable the device so the buses are effectively isolated.

The SN54AS' family is characterized for operation over the full military temperature range of -55°C to 125°C . The SN74AS' family is characterized for operation from 0°C to 70°C .

**SN54AS' . . . J PACKAGE
SN74AS' . . . N PACKAGE
(TOP VIEW)**



**SN54AS' . . . FH PACKAGE
SN74AS' . . . FN PACKAGE
(TOP VIEW)**

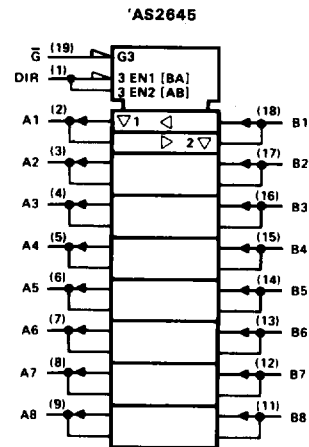
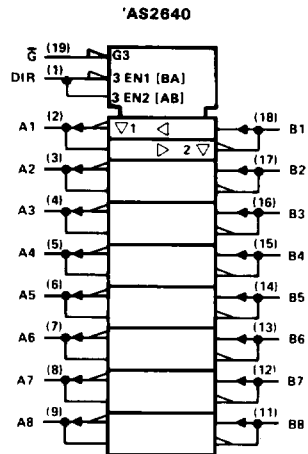


FUNCTION TABLE

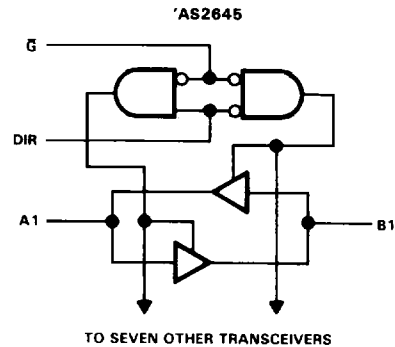
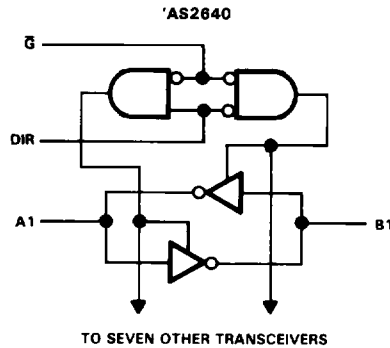
CONTROL INPUTS		OPERATION	
		'AS2640	'AS2645
\bar{G}	DIR	\bar{B} data to A bus	B data to A bus
L	L	\bar{A} data to B bus	A data to B bus
L	H	Isolation	Isolation
H	X	Isolation	Isolation

**TYPES SN54AS2640, SN54AS2645
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OCTAL BUS TRANSCEIVER/MOS DRIVER**

logic symbols



functional block diagrams (positive logic)



Pin numbers shown are for J and N packages.

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ALS AND AS CIRCUITS

**TYPES SN54AS2640, SN54AS2645
SN74AS2640, SN74AS2645
OCTAL BUS TRANSCEIVERS/MOS DRIVERS**

'AS2640 switching characteristics (see Note 1)

PARAMETER	FROM (INPUT)	TO (OUTPUT)	V _{CC} = 4.5 V to 5.5 V, C _L = 50 pF, R ₁ = 500 Ω, R ₂ = 500 Ω, T _A = MIN to MAX				UNIT
			SN54AS2640		SN74AS2640		
			MIN	MAX	MIN	MAX	
t _{PLH}	A or B	B or A	1	9.5	1	7.5	ns
t _{PHL}			1	7	1	6.5	
t _{PZH}	\bar{G}	A or B	2	11	2	9	ns
t _{PZL}			2	12	2	10	
t _{PHZ}	\bar{G}	A or B	1	8	1	7	ns
t _{PLZ}			2	15	2	13	

'AS2645 switching characteristics (see Note 1)

PARAMETER	FROM (INPUT)	TO (OUTPUT)	V _{CC} = 4.5 V to 5.5 V, C _L = 50 pF, R ₁ = 500 Ω, R ₂ = 500 Ω, T _A = MIN to MAX				UNIT
			SN54AS2645		SN74AS2645		
			MIN	MAX	MIN	MAX	
t _{PLH}	A or B	B or A	1	12	1	10	ns
t _{PHL}			1	11	1	9.5	
t _{PZH}	\bar{G}	A or B	1	13	1	11.5	ns
t _{PZL}			1	13	1	10.5	
t _{PHZ}	\bar{G}	A or B	1	9	1	8	ns
t _{PLZ}			1	13	1	12	

NOTE 1: For load circuit and voltage waveforms, see page 1-12.

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ALS AND AS CIRCUITS