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- Local Bus-Latch Capability
- Noninverting Logic
- Package Options Include Plastic Small-Outline Packages, Ceramic Chip Carriers, and Standard Plastic and Ceramic 300-mil DIPs

description

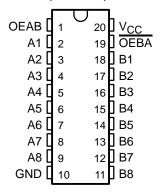
These octal bus transceivers are designed for asynchronous communication between data buses. The control function implementation allows for maximum flexibility in timing.

These devices allow data transmission from the A bus to the B bus or from the B bus to the A bus depending upon the logic levels at the output enable (OEAB and OEBA) inputs.

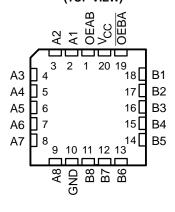
The output-enable inputs can be used to disable the device so that the buses are effectively isolated. The dual-enable configuration gives the transceivers the capability of storing data by simultaneously enabling OEAB and OEBA. Each output reinforces its input in this configuration. When both OEAB and OEBA are enabled and all other data sources to the two sets of bus lines are at high impedance, both sets of bus lines (16 in all) will remain at their last states.

The SN54F621 is characterized for operation over the full military temperature range of -55° C to 125°C. The SN74F621 is characterized for operation from 0°C to 70°C.

SN54F621 ... J PACKAGE SN74F621 ... DW OR N PACKAGE (TOP VIEW)



SN54F621 . . . FK PACKAGE (TOP VIEW)



FUNCTION TABLE

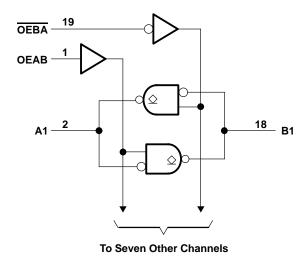
INP	UTS	OPERATION					
OEBA	OEAB	OPERATION					
L	L	B data to A bus					
L	Н	B data to A bus, A data to B bus					
Н	L	Isolation					
Н	Н	A data to B bus					

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logic symbol†

OEBA EN1 **OEAB** EN2 В1 **△ 1** 17 Α2 **B2** 16 **B3** 15 В4 Α4 14 Α5 **B5** 13 **B6** A6 12 **B7** Α7 11 **B8**

logic diagram (positive logic)



absolute maximum ratings over operating free-air temperature range (unless otherwise noted)‡

Supply voltage range, V _{CC}		0.5 V to 7 V
Input voltage range, VI (excluding I/O p	orts) (see Note 1)	–1.2 V to 7 V
Input current range, I _{IK}		
Voltage range applied to any output in	the high state	
Current into any output in the low state	: SN54F621 (A1-A8)	
	SN54F621 (B1-B8)	96 mA
	SN74F621 (A1-A8)	48 mA
	SN74F621 (B1-B8)	128 mA
Operating free-air temperature range:	SN54F621	–55°C to 125°C
	SN74F621	0°C to 70°C
Storage temperature range		–65°C to 150°C

[‡] Stresses beyond those listed under "absolute maximum ratings" may cause permanent damage to the device. These are stress ratings only, and functional operation of the device at these or any other conditions beyond those indicated under "recommended operating conditions" is not implied. Exposure to absolute-maximum-rated conditions for extended periods may affect device reliability.

recommended operating conditions

				SN54F621			SN74F621		
				NOM	MAX	MIN	NOM	MAX	UNIT
VCC	V _{CC} Supply voltage		4.5	5	5.5	4.5	5	5.5	V
VIH	V _{IH} High-level input voltage		2			2			V
Vон	H High-level output voltage				5.5			5.5	V
V_{IL}	IL Low-level input voltage				0.8			0.8	V
liK	(Input clamp current				- 18			- 18	mA
	Low level output ourrent	A1-A8			20			24	mA
IOL Low-le	Low-level output current	B1-B8			48			64	IIIA
TA	Operating free-air temperature		- 55		125	0		70	°C

[†] This symbol is in accordance with ANSI/IEEE Std 91-1984 and IEC Publication 617-12.

NOTE 1: The input-voltage ratings may be exceeded provided the input-current ratings are observed.

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electrical characteristics over recommended operating free-air temperature range (unless otherwise noted)

PARAMETER		TEST CONDITIONS		5	SN54F621			SN74F621			
				MIN	TYP [†]	MAX	MIN	TYP [†]	MAX	UNIT	
VIK		$V_{CC} = 4.5 \text{ V},$	$I_{I} = -18 \text{ mA}$			- 1.2			- 1.2	V	
loh		$V_{CC} = 4.5 \text{ V},$	V _{OH} = 5.5 V			250			250	μΑ	
	A1 A9	V _{CC} = 4.5 V	I _{OL} = 20 mA		0.3	0.5				٧	
\/a.	A1-A8		I _{OL} = 24 mA					0.35	0.5		
VOL	B1-B8		I _{OL} = 48 mA		0.38	0.55					
			I _{OL} = 64 mA					0.42	0.55		
	A and B ports	V _{CC} = 5.5 V	V _I = 5.5 V			1			1	mA	
וין	OEAB or OEBA		V _I = 7 V			0.1			0.1	IIIA	
. +	A and B ports	V00 - 5 5 V	\/37\/.v			70			70		
l _{IH} ‡	OEAB or OEBA	$V_{CC} = 5.5 \text{ V},$	√, V _I = 2₹.Υ′ ∨			20			20	μΑ	
. +	A and B ports	V _{CC} = 5.5 V,	A and B ports	V _I =ੴ.5′ v	V. 05V.		- 0.65			- 0.65	mA
I _{IL} ‡	OEAB or OEBA		v = 0.5 v			-0.6			- 0.6	IIIA	
ICCH		V _{CC} = 5.5 V			105	140		105	140	mA	
ICCL		V _{CC} = 5.5 V			105	140		105	140	mA	

[†] All typical values are at $V_{CC} = 5 \text{ V}$, $T_A = 25^{\circ}\text{C}$.

switching characteristics (see Note 2)

PARAMETER	FROM (INPUT)	TO (OUTPUT)	C _L R _L	C = 5 V, = 50 pF = 500 Ω = 25°C ′F621	,	C R	L = 50 p L = 5009 L = MIN		i	UNIT
		Ī	MIN	TYP	MAX	MIN	MAX	MIN	MAX	
^t PLH	A	В	6	9.5	12	5.5	13	5.5	13	ns
^t PHL		Λ	В	2.5	3.8	8	2	8.5	2	8.5
^t PLH	В	Α	6	9	12	5.5	12.5	5.5	12.5	ns
^t PHL		Α	2.5	4	7.5	2	8	2	8	115
^t PLH	OEBA	OEBA A	6	10	13.5	5.5	14	5.5	14	
^t PHL			3.5	6.5	10.5	2.5	11	2.5	11	ns
^t PLH	OEAB	В	7	12	15	6	17	6	17	ns
t _{PHL}		, d	3.5	6.5	9.5	3	10	3	10	113

[§] For conditions shown as MIN or MAX, use the appropriate value specified under recommended operating conditions.

NOTE 2: Load circuits and waveforms are shown in Section 1.

[‡] For I/O ports, the parameters I_{IH} and I_{IL} include the off-state output current.

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