

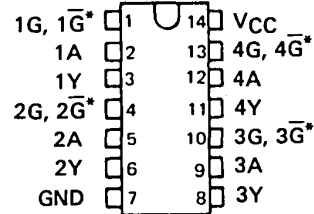
TYPES SN54425, SN54426, SN74425, SN74426 QUADRUPLE BUS BUFFERS WITH 3-STATE OUTPUTS

REVISED DECEMBER 1983

- Quad Bus Buffers
- 3-State Outputs
- Separate Control for Each Channel

SN54425, SN54426 ... J OR W PACKAGE
SN74425, SN74426 ... J OR N PACKAGE

(TOP VIEW)

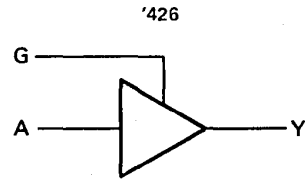
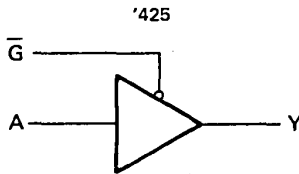


*G-bar on '425, G on '426

description

These bus buffers feature three-state outputs that, when enabled, have the low impedance characteristics of a TTL output with additional drive capability at high logic levels to permit driving heavily loaded bus lines without external pull-up resistors, when disabled, both output transistors are turned off presenting a high-impedance state to the bus so the output will act neither as a significant load nor as a driver. The '425 outputs are disabled when G-bar is high. The '426 outputs are disabled when G is low.

logic diagram (each gate)



positive logic: $Y = A$

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

Supply voltage, V_{CC} (see Note 1)	7 V
Input voltage	5.5 V
Operating free-air temperature range: SN54'	-55°C to 125°C
SN74'	0°C to 70°C
Storage temperature range	-65°C to 150°C

NOTE 1: Voltage values are with respect to network ground terminal.

PRODUCTION DATA
This document contains information current as of publication date. Products conform to specifications per the terms of Texas Instruments standard warranty. Production processing does not necessarily include testing of all parameters.

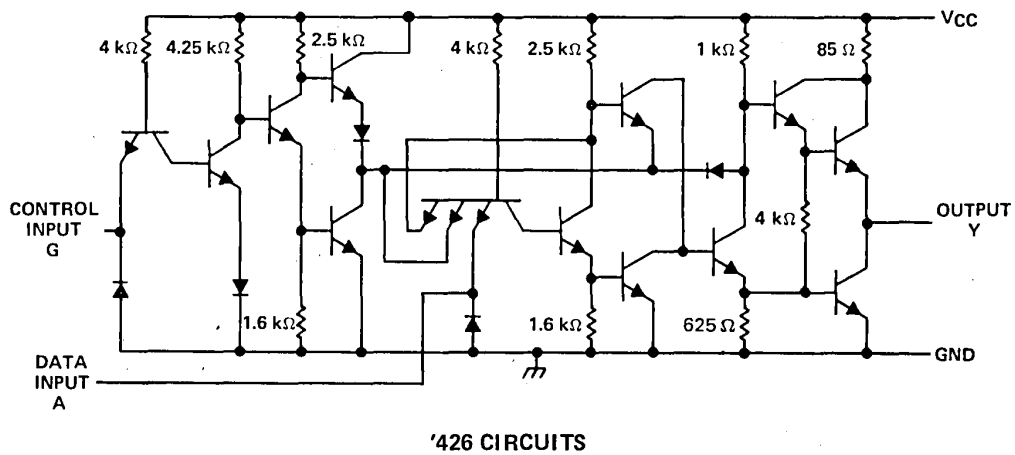
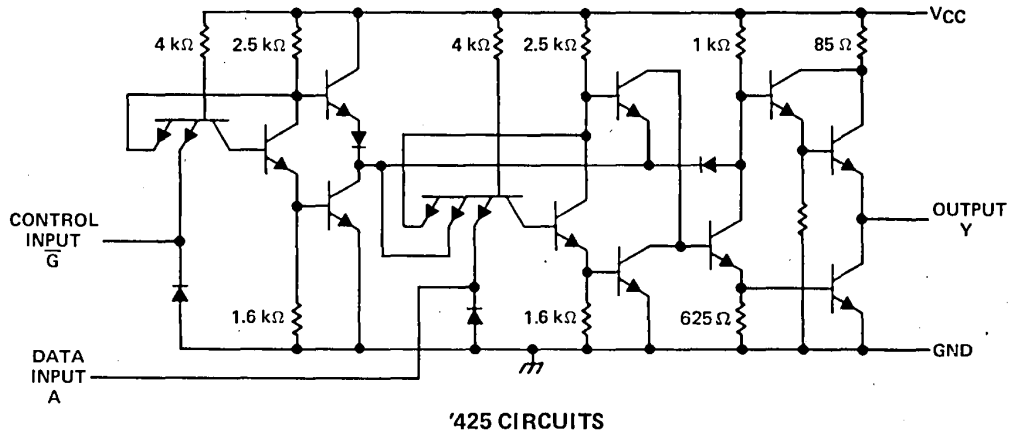
**TEXAS
INSTRUMENTS**

POST OFFICE BOX 225012 • DALLAS, TEXAS 75265

3-1089

TYPES SN54425, SN54426, SN74425, SN74426
QUADRUPLE BUS BUFFERS WITH 3-STATE OUTPUTS

schematics (each gate)



Resistor values shown are nominal.

3 TTL DEVICES

TYPES SN54425, SN54426, SN74425, SN74426 QUADRUPLE BUS BUFFERS WITH 3-STATE OUTPUTS

recommended operating conditions

	SN54425, SN54426			SN74425, SN74426			UNIT		
	MIN	NOM	MAX	MIN	NOM	MAX			
V _{CC} Supply voltage	4.5	5	5.5	4.75	5	5.25	V		
V _{IH} High-level input voltage	2			2			V		
V _{IL} Low-level input voltage	0.8			0.8			V		
I _{OH} High-level output current	-2			-5.2			mA		
I _{OL} Low-level output current	16			16			mA		
T _A Operating free-air temperature	-55			125			0	70	°C

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

PARAMETER	TEST CONDITIONS †	SN54425, SN54426			SN74425, SN74426			UNIT	
		MIN	TYP ‡	MAX	MIN	TYP ‡	MAX		
V _{IK}	V _{CC} = MIN, I _I = -12 mA	-1.5			-1.5			V	
V _{OH}	V _{CC} = MIN, V _{IH} = 2 V, V _{IL} = 0.8 V	I _{OH} = -2 V			2.4			3.3	V
		I _{OH} = -5.2 V			2.4				
V _{OL}	V _{CC} = MIN, V _{IH} = 2 V, I _{OL} = 16 mA	0.4			0.4			V	
I _{OZ}	V _{CC} = MAX, V _{IH} = 2 V, V _{IL} = 0.8 V	V _O = 2.4 V			40			40	μA
		V _O = 0.4 V			-40				
I _I	V _{CC} = MAX, V _I = 5.5 V	1			1			mA	
I _{IH}	V _{CC} = MAX, V _I = 2.4 V	40			40			μA	
I _{IL}	V _{CC} = MAX, V _I = 0.4 V	-1.6			-1.6			mA	
I _{OS} §	V _{CC} = MAX	-30			-70			mA	
I _{CC}	V _{CC} = MAX, (see Note 2)	'425			32			54	mA
		'426			36				

† For condition shown as MIN or MAX, use the appropriate value specified under recommended operating conditions.

‡ All typical values are at V_{CC} = 5 V, T_A = 25° C.

§ Not more than one output should be shorted at a time.

NOTE 2: Data inputs = 0 V; output control = 4.5 V for '425 and 0 V for '426.

switching characteristics, V_{CC} = 5 V, T_A = 25° C (see note 3)

PARAMETER	TEST CONDITIONS	SN54/74425			SN54/74426			UNIT
		MIN	TYP	MAX	MIN	TYP	MAX	
t _{PLH}	R _L = 400 Ω, C _L = 50 pF	8			8			ns
t _{PHL}		12			12			
t _{PZH}		11			11			
t _{PZL}		16			16			
t _{PHZ}	R _L = 400 Ω, C _L = 5 pF	5			10			ns
t _{PLZ}		7			12			

NOTE 3: See General Information Section for load circuits and voltage waveforms.

3

TTL DEVICES