- **Quad Versions of ’AS805B**
- **Offers High-Capacitive Drive Capability**
- **Package Options include Plastic Small Outline Packages, Ceramic Chip Carriers, and Standard Plastic and Ceramic 300-mil DIPs**
- **Dependable Texas Instruments Quality and Reliability**

description

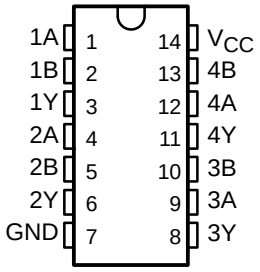
These devices contain four independent 2-input NOR drivers. They perform the Boolean functions $Y = \overline{A + B}$ or $Y = \overline{A} \bullet \overline{B}$ in positive logic.

The SN54AS1036A is characterized for operation over the full military temperature range of –55°C to 125°C. The SN74AS1036A is characterized for operation from 0°C to 70°C.

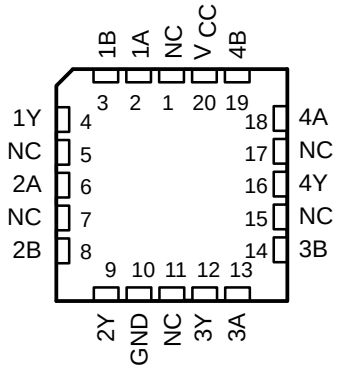
FUNCTION TABLE
(each gate)

INPUTS		OUTPUT
A	B	Y
H	X	L
X	H	L
L	L	H

SN54AS1036A . . . J PACKAGE
SN74AS1036A . . . D OR N PACKAGE
(TOP VIEW)

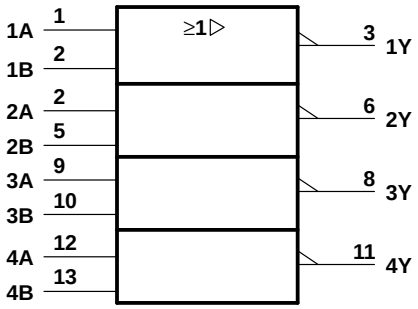


SN54AS1036A . . . FK PACKAGE
(TOP VIEW)



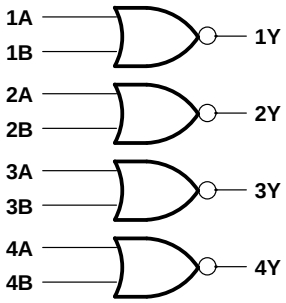
NC – No internal connection

logic symbol †



† This symbol is in accordance with ANSI/IEEE Std 91-1984 and IEC Publication 617-12.
Pin numbers shown are for D, J, and N packages.

logic diagram (positive logic)



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

Supply voltage, V_{CC} . . . . . 7 V
Input voltage . . . . . 7 V
Operating free-air temperature range: SN54AS1036A . . . . . –55°C to 125°C
SN74AS1036A . . . . . 0°C to 70°C
Storage temperature range . . . . . –65°C to 150°C

recommended operating conditions

		SN54AS1036A			SN74AS1036A			UNIT
		MIN	NOM	MAX	MIN	NOM	MAX	
V_{CC}	Supply voltage	4.5	5	5.5	4.5	5	5.5	V
V_{IH}	High-level input voltage	2			2			V
V_{IL}	Low-level input voltage			0.7			0.8	V
I_{OH}	High-level output current			–40			–48	mA
I_{OL}	Low-level output current			40			48	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		SN54AS1036A			SN74AS1036A			UNIT
			MIN	TYP†	MAX	MIN	TYP†	MAX	
V_{IK}	V_{CC} = 4.5 V,	I_I = –18 mA			–1.2			–1.2	V
V_{OH}	V_{CC} = 4.5 V,	I_{OH} = –2 mA	V_{CC}–2			V_{CC}–2			V
	V_{CC} = 4.5 V,	I_{OH} = –3 mA	2.4	3.2		2.4	3.2		
	V_{CC} = 4.5 V,	I_{OH} = –40 mA	2						
	V_{CC} = 4.5 V,	I_{OH} = –48 mA				2			
V_{OL}	V_{CC} = 4.5 V,	I_{OL} = 40 mA		0.25	0.5				V
	V_{CC} = 4.5 V,	I_{OL} = 48 mA					0.35	0.5	
I_I	V_{CC} = 5.5 V,	V_I = 7 V			0.1			0.1	mA
I_{IH}	V_{CC} = 5.5 V,	V_I = 2.7 V			20			20	µA
I_{IL}	V_{CC} = 5.5 V,	V_I = 0.4 V			–0.5			–0.5	mA
I_O‡	V_{CC} = 5.5 V,	V_O = 2.25 V	–50		–200	–50		– 200	mA
I_{CCH}	V_{CC} = 5.5 V,	V_I = 0		4.3	7		4.3	7	mA
I_{CCL}	V_{CC} = 5.5 V,	V_I = 4.5 V		14	23		14	23	mA

† All typical values are at V_{CC} = 5 V, T_A = 25°C.
‡ The output conditions have been chosen to produce a current that closely approximates one half of the true short-circuit output current, I_{OS}.

switching characteristics (see Note 1)

PARAMETER	FROM (INPUT)	TO (OUTPUT)	V_{CC} = 4.5 V to 5.5 V, C_L = 50 pF, R_L = 500 Ω, T_A = MIN to MAX				UNIT
			SN54AS1036A		SN74AS1036A		
			MIN	MAX	MIN	MAX	
t_{PLH}	A or B	Y	1	4.8	1	4.3	ns
t_{PHL}			1	4.8	1	4.3	

NOTE 1: Load circuit and voltage waveforms are shown in Section 1.

IMPORTANT NOTICE

Texas Instruments (TI) reserves the right to make changes to its products or to discontinue any semiconductor product or service without notice, and advises its customers to obtain the latest version of relevant information to verify, before placing orders, that the information being relied on is current.

TI warrants performance of its semiconductor products and related software to the specifications applicable at the time of sale in accordance with TI's standard warranty. Testing and other quality control techniques are utilized to the extent TI deems necessary to support this warranty. Specific testing of all parameters of each device is not necessarily performed, except those mandated by government requirements.

Certain applications using semiconductor products may involve potential risks of death, personal injury, or severe property or environmental damage ("Critical Applications").

TI SEMICONDUCTOR PRODUCTS ARE NOT DESIGNED, INTENDED, AUTHORIZED, OR WARRANTED TO BE SUITABLE FOR USE IN LIFE-SUPPORT APPLICATIONS, DEVICES OR SYSTEMS OR OTHER CRITICAL APPLICATIONS.

Inclusion of TI products in such applications is understood to be fully at the risk of the customer. Use of TI products in such applications requires the written approval of an appropriate TI officer. Questions concerning potential risk applications should be directed to TI through a local SC sales office.

In order to minimize risks associated with the customer's applications, adequate design and operating safeguards should be provided by the customer to minimize inherent or procedural hazards.

TI assumes no liability for applications assistance, customer product design, software performance, or infringement of patents or services described herein. Nor does TI warrant or represent that any license, either express or implied, is granted under any patent right, copyright, mask work right, or other intellectual property right of TI covering or relating to any combination, machine, or process in which such semiconductor products or services might be or are used.