

SN54ABT833, SN74ABT833 8-BIT TO 9-BIT PARITY BUS TRANSCEIVERS

SCBS195C – FEBRUARY 1991 – REVISED JANUARY 1997

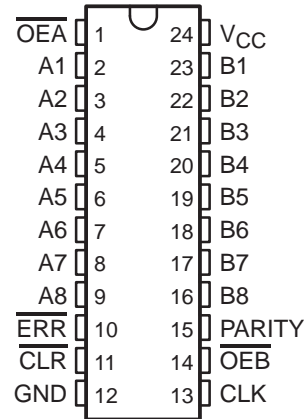
- State-of-the-Art *EPIC-IIB™* BiCMOS Design Significantly Reduces Power Dissipation
- ESD Protection Exceeds 2000 V Per MIL-STD-883, Method 3015; Exceeds 200 V Using Machine Model (C = 200 pF, R = 0)
- Latch-Up Performance Exceeds 500 mA Per JEDEC Standard JESD-17
- Typical V_{OLP} (Output Ground Bounce) < 1 V at $V_{CC} = 5$ V, $T_A = 25^\circ\text{C}$
- High-Drive Outputs (–32-mA I_{OH} , 64-mA I_{OL})
- Parity Error Flag With Parity Generator/Checker
- Register for Storage of the Parity Error Flag
- Package Options Include Plastic Small-Outline (DW) Packages, Ceramic Chip Carriers (FK), and Plastic (NT) and Ceramic (JT) DIPs

description

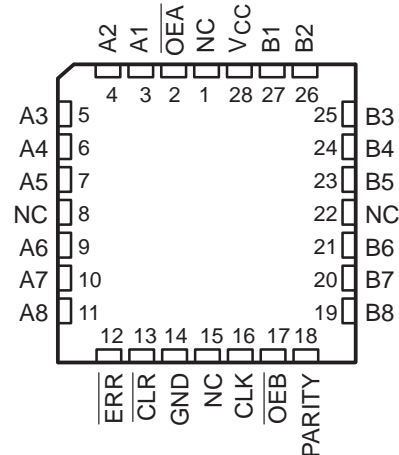
The 'ABT833 8-bit to 9-bit parity transceivers are designed for communication between data buses. When data is transmitted from the A bus to the B bus, a parity bit is generated. When data is transmitted from the B bus to the A bus with its corresponding parity bit, the open-collector parity-error (\overline{ERR}) output indicates whether or not an error in the B data has occurred. The output-enable (\overline{OEA} and \overline{OEB}) inputs can be used to disable the device so that the buses are effectively isolated. The 'ABT833 provide true data at their outputs.

A 9-bit parity generator/checker generates a parity-odd (PARITY) output and monitors the parity of the I/O ports with the \overline{ERR} flag. \overline{ERR} is clocked into the register on the rising edge of the clock (CLK) input. The error flag register is cleared with a low pulse on the clear (\overline{CLR}) input. When both \overline{OEA} and \overline{OEB} are low, data is transferred from the A bus to the B bus and inverted parity is generated. Inverted parity is a forced error condition that gives the designer more system diagnostic capability.

SN54ABT833 . . . JT PACKAGE
SN74ABT833 . . . DW OR NT PACKAGE
(TOP VIEW)



SN54ABT833 . . . FK PACKAGE
(TOP VIEW)



NC – No internal connection



Please be aware that an important notice concerning availability, standard warranty, and use in critical applications of Texas Instruments semiconductor products and disclaimers thereto appears at the end of this data sheet.

EPIC-IIB is a trademark of Texas Instruments Incorporated.

UNLESS OTHERWISE NOTED this document contains PRODUCTION DATA 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 655303 • DALLAS, TEXAS 75265

Copyright © 1997, Texas Instruments Incorporated

SN54ABT833, SN74ABT833 8-BIT TO 9-BIT PARITY BUS TRANSCEIVERS

SCBS195C – FEBRUARY 1991 – REVISED JANUARY 1997

description (continued)

To ensure the high-impedance state during power up or power down, \overline{OE} should be tied to V_{CC} through a pullup resistor; the minimum value of the resistor is determined by the current-sinking capability of the driver.

The SN54ABT833 is characterized for operation over the full military temperature range of -55°C to 125°C . The SN74ABT833 is characterized for operation from -40°C to 85°C .

FUNCTION TABLE

INPUTS						OUTPUT AND I/O				FUNCTION
\overline{OEB}	\overline{OEA}	\overline{CLR}	CLK	A_i Σ OF H's	B_i^{\dagger} Σ OF H's	A	B	PARITY	$\overline{ERR}^{\ddagger}$	
L	H	X	X	Odd Even	NA	NA	A	L H	NA	A data to B bus and generate parity
H	L	H	\uparrow	NA	Odd Even	B	NA	NA	H L	B data to A bus and check parity
X	X	L	X	X	X	X	NA	NA	H	Check error-flag register
H	H	H	No \uparrow	X	X	Z	Z	Z	NC	Isolation \S
		L	No \uparrow	H						
		H	\uparrow	H						
L	L	X	X	Odd Even	NA	NA	A	H L	NA	A data to B bus and generate inverted parity

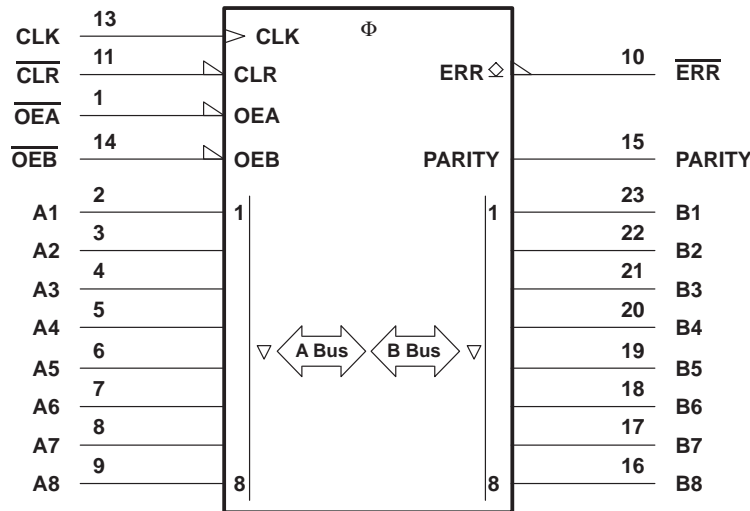
NA = not applicable, NC = no change, X = don't care

\dagger Summation of high-level inputs includes PARITY along with B_i inputs.

\ddagger Output states shown assume \overline{ERR} was previously high.

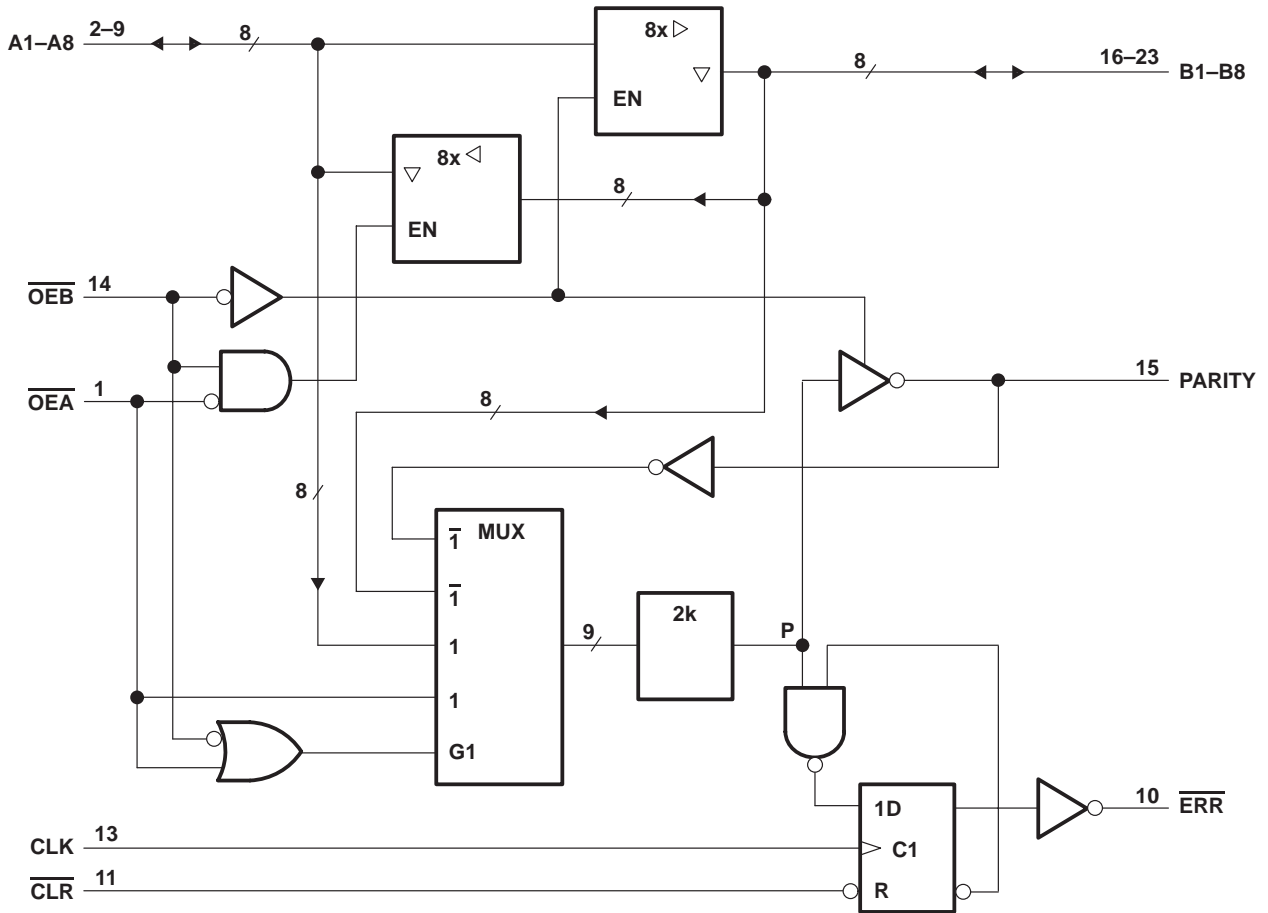
\S In this mode, \overline{ERR} (when clocked) shows inverted parity of the A bus.

logic symbol \P



\P This symbol is in accordance with ANSI/IEEE Std 91-1984 and IEC Publication 617-12. Pin numbers shown are for the DW, JT, and NT packages.

logic diagram (positive logic)



Pin numbers shown are for the DW, JT, and NT packages.

ERROR-FLAG FUNCTION TABLE

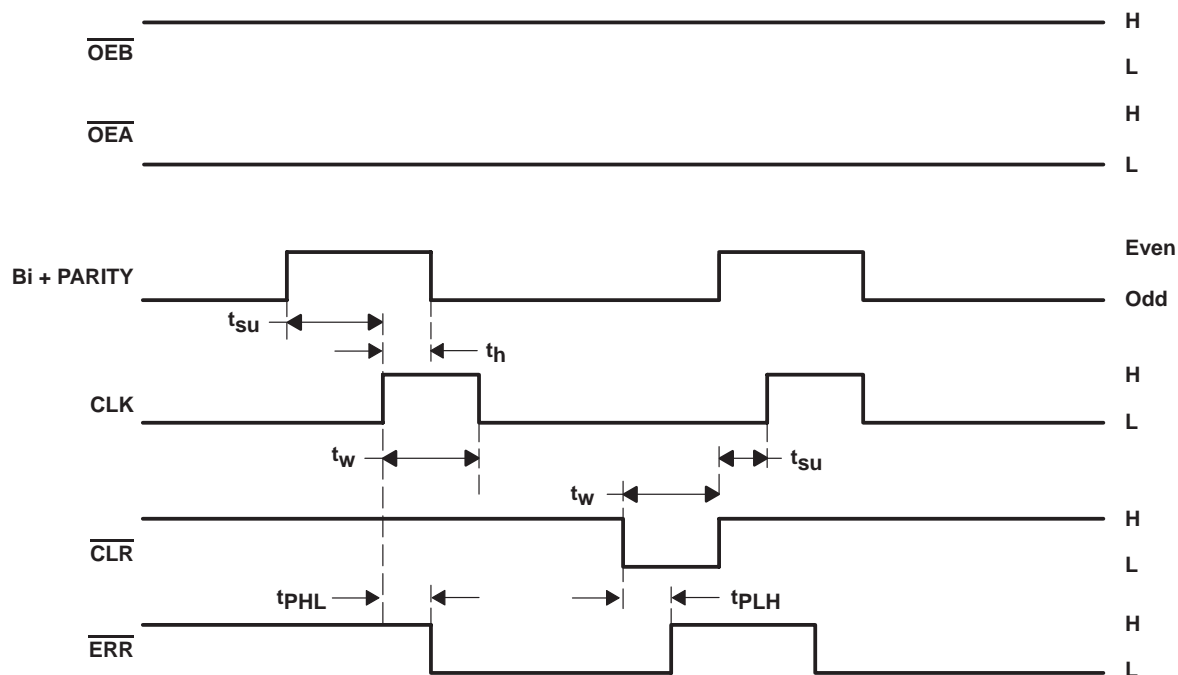
INPUTS		INTERNAL TO DEVICE	OUTPUT PRE-STATE	OUTPUT ERR	FUNCTION
CLR	CLK	POINT P	ERR _{n-1} [†]		
H	↑	H	H	H	Sample
H	↑	X	L	L	
H	↑	L	X	L	
L	X	X	X	H	Clear

[†] The state of ERR before any changes at CLR, CLK, or point P

SN54ABT833, SN74ABT833 8-BIT TO 9-BIT PARITY BUS TRANSCEIVERS

SCBS195C – FEBRUARY 1991 – REVISED JANUARY 1997

error-flag waveforms



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, V_I (except I/O ports) (see Note 1)	-0.5 V to 7 V
Voltage range applied to any output in the high or power-off state, V_O	-0.5 V to 5.5 V
Current into any output in the low state, I_O : SN54ABT833	96 mA
SN74ABT833	128 mA
Input clamp current, I_{IK} ($V_I < 0$)	-18 mA
Output clamp current, I_{OK} ($V_O < 0$)	-50 mA
Package thermal impedance, θ_{JA} (see Note 2): DW package	81°C/W
NT package	67°C/W
Storage temperature range, T_{stg}	-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.

- NOTES: 1. The input and output negative-voltage ratings may be exceeded if the input and output clamp-current ratings are observed.
2. The package thermal impedance is calculated in accordance with EIA/JEDEC Std JESD51, except for through-hole packages, which use a trace length of zero.



POST OFFICE BOX 655303 • DALLAS, TEXAS 75265

SN54ABT833, SN74ABT833 8-BIT TO 9-BIT PARITY BUS TRANSCEIVERS

SCBS195C – FEBRUARY 1991 – REVISED JANUARY 1997

recommended operating conditions (see Note 3)

		SN54ABT833		SN74ABT833		UNIT
		MIN	MAX	MIN	MAX	
V _{CC}	Supply voltage	4.5	5.5	4.5	5.5	V
V _{IH}	High-level input voltage	2		2		V
V _{IL}	Low-level input voltage		0.8		0.8	V
V _I	Input voltage	0	V _{CC}	0	V _{CC}	V
V _{OH}	High-level output voltage		$\overline{\text{ERR}}$		5.5	V
I _{OH}	High-level output current		Except $\overline{\text{ERR}}$		-24	mA
I _{OL}	Low-level output current				48	mA
$\Delta t/\Delta v$	Input transition rise or fall rate		Outputs enabled		5	ns/V
T _A	Operating free-air temperature	-55	125	-40	85	°C

NOTE 3: Unused pins (input or I/O) must be held high or low to prevent them from floating.

SN54ABT833, SN74ABT833 8-BIT TO 9-BIT PARITY BUS TRANSCEIVERS

SCBS195C – FEBRUARY 1991 – REVISED JANUARY 1997

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

PARAMETER	TEST CONDITIONS	T _A = 25°C			SN54ABT833		SN74ABT833		UNIT		
		MIN	TYP†	MAX	MIN	MAX	MIN	MAX			
V _{IK}	V _{CC} = 4.5 V, I _I = -18 mA			-1.2		-1.2		-1.2	V		
V _{OH}	All outputs except ERR	V _{CC} = 4.5 V, I _{OH} = -3 mA		2.5		2.5		2.5	V		
		V _{CC} = 5 V, I _{OH} = -3 mA		3		3		3			
		V _{CC} = 4.5 V	I _{OH} = -24 mA		2		2			2	
V _{OL}	V _{CC} = 4.5 V	I _{OL} = 24 mA				0.55			V		
		I _{OL} = 64 mA				0.55*		0.55			
V _{hys}				100					mV		
I _{OH}	ERR	V _{CC} = 4.5 V, V _{OH} = 5.5 V		20		20		20	μA		
I _I	Control inputs	V _{CC} = 5.5 V, V _I = V _{CC} or GND		±1		±1		±1	μA		
	A or B ports			±100		±100		±100			
I _{IL}	A or B ports	V _{CC} = 0, V _I = GND		-50		-50		-50	μA		
I _{OZH} ‡		V _{CC} = 5.5 V, V _O = 2.7 V		50		50		50	μA		
I _{OZL} ‡		V _{CC} = 5.5 V, V _O = 0.5 V		-50		-50		-50	μA		
I _{off}		V _{CC} = 0, V _I or V _O ≤ 4.5 V		±100				±100	μA		
I _{CEX}		V _{CC} = 5.5 V, V _O = 5.5 V	Outputs high		50		50		μA		
I _O §		V _{CC} = 5.5 V, V _O = 2.5 V		-50	-100	-200¶	-50	-200¶	-50	-200¶	mA
I _{CC}	A or B ports	V _{CC} = 5.5 V, I _O = 0, V _I = V _{CC} or GND	Outputs high		1	250		250		250	μA
			Outputs low		24	38¶		38¶		38¶	mA
			Outputs disabled		0.5	250		250		250	μA
ΔI _{CC} #	Data inputs	V _{CC} = 5.5 V, One input at 3.4 V, Other inputs at V _{CC} or GND	Outputs enabled		1.5		1.5		1.5	mA	
			Outputs disabled		50		50		50	μA	
	Control inputs	V _{CC} = 5.5 V, One input at 3.4 V, Other inputs at V _{CC} or GND		1.5		1.5		1.5	mA		
C _i	Control inputs	V _I = 2.5 V or 0.5 V		4.5					pF		
C _{io}	A or B ports	V _O = 2.5 V or 0.5 V		10.5					pF		

* On products compliant to MIL-PRF-38535, this parameter does not apply.

† All typical values are at V_{CC} = 5 V.

‡ The parameters I_{OZH} and I_{OZL} include the input leakage current.

§ Not more than one output should be tested at a time, and the duration of the test should not exceed one second.

¶ These limits may vary among suppliers.

This is the increase in supply current for each input that is at the specified TTL voltage level rather than V_{CC} or GND.

PRODUCT PREVIEW information concerns products in the formative or design phase of development. Characteristic data and other specifications are design goals. Texas Instruments reserves the right to change or discontinue these products without notice.



POST OFFICE BOX 655303 • DALLAS, TEXAS 75265

SN54ABT833, SN74ABT833 8-BIT TO 9-BIT PARITY BUS TRANSCEIVERS

SCBS195C – FEBRUARY 1991 – REVISED JANUARY 1997

timing requirements over recommended ranges of supply voltage and operating free-air temperature (unless otherwise noted) (see Figure 1)

		$V_{CC} = 5\text{ V},$ $T_A = 25^\circ\text{C}$		SN54ABT833		SN74ABT833		UNIT
		MIN	MAX	MIN	MAX	MIN	MAX	
t_w	Pulse duration	CLK high or low	3	3	3	3	3	ns
		CLR low	3	3	3	3		
t_{su}	Setup time before CLK \uparrow	B or PARITY high	9.8	9.8	9.8	9.8	ns	
		B or PARITY low	8.1	8.1	8.1	8.1		
		CLR	2	2	2	2		
t_h	Hold time after CLK \uparrow	B or PARITY	0	0	0	0	ns	

switching characteristics over recommended ranges of supply voltage and operating free-air temperature (unless otherwise noted) (see Figure 1)

PARAMETER	FROM (INPUT)	TO (OUTPUT)	$V_{CC} = 5\text{ V},$ $T_A = 25^\circ\text{C}$			SN54ABT833		SN74ABT833		UNIT
			MIN	TYP \dagger	MAX	MIN	MAX	MIN	MAX	
t_{PLH}	A or B	B or A	1.2	2.8	4.8	1.2	5.4	1.2	5.3	ns
t_{PHL}			1	3	4.8 \ddagger	1	5.4	1	5.3 \ddagger	
t_{PLH}	A	PARITY	2.1	5.5	9.5	2.1	11.3	2.1	11.2	ns
t_{PHL}			2.5	5.3	9.7	2.5	11.1	2.5	11	
t_{PZH}	\overline{OE}	PARITY	2.6	6.2	8.5	2.6	10.6	2.6	10.5	ns
t_{PZL}			2.6 \ddagger	5.8	8.6	2.6 \ddagger	10.1	2.6 \ddagger	10	
t_{PLH}	\overline{CLR}	\overline{ERR}	1	3.2	4.8 \ddagger	1	5.3	1	5.2	ns
t_{PHL}	CLK		1.2 \ddagger	2.8	5.7	1.2 \ddagger	6.3	1.2 \ddagger	6.2	
t_{PZH}	\overline{OE}	A, B, or PARITY	1	3.7	5.8 \ddagger	1	6.6	1	6.5 \ddagger	ns
t_{PZL}			1.3 \ddagger	3.8	5.8	1.3 \ddagger	6.6	1.3 \ddagger	6.5 \ddagger	
t_{PHZ}	\overline{OE}	A, B, or PARITY	1.9 \ddagger	4.4	7.3	1.9 \ddagger	8	1.9 \ddagger	7.9	ns
t_{PLZ}			2.2 \ddagger	4.4	7.7	2.2 \ddagger	8.2	2.2 \ddagger	8.1	

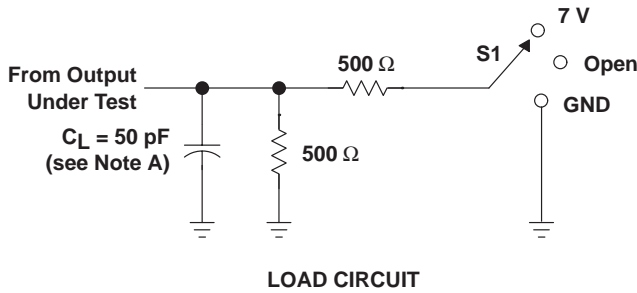
\dagger All typical values are at $V_{CC} = 5\text{ V}$.

\ddagger These limits may vary among suppliers.

SN54ABT833, SN74ABT833 8-BIT TO 9-BIT PARITY BUS TRANSCEIVERS

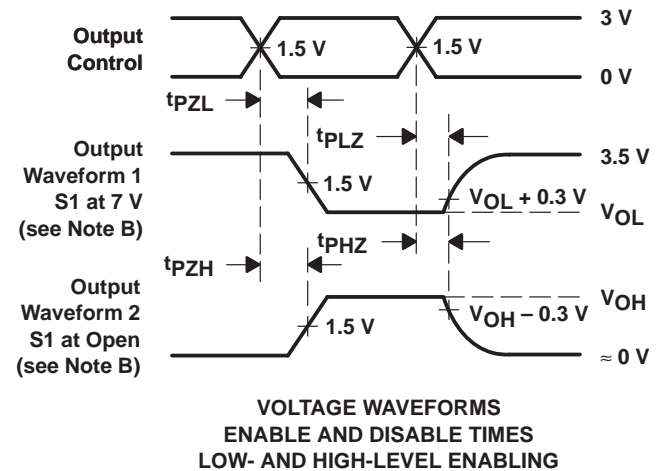
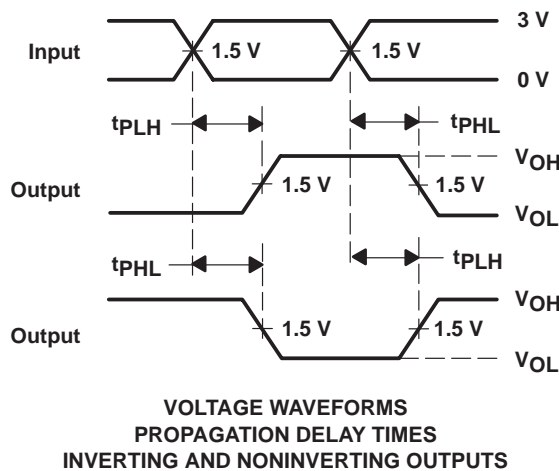
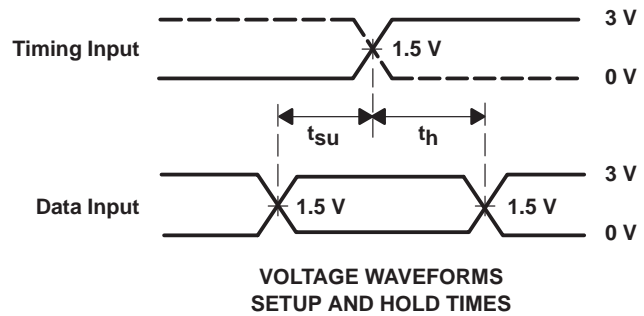
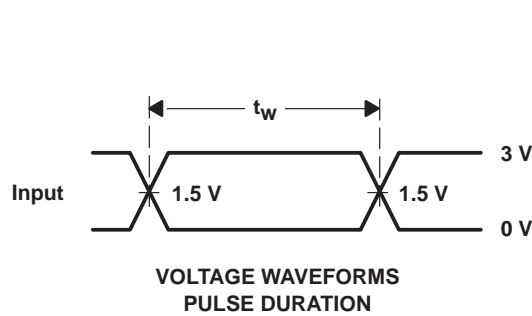
SCBS195C – FEBRUARY 1991 – REVISED JANUARY 1997

PARAMETER MEASUREMENT INFORMATION



TEST	S1
t_{PLH}/t_{PHL}	Open
t_{PLZ}/t_{PZL}	7 V
t_{PHZ}/t_{PZH}	Open

ERR	S1
t_{PHL}	7 V
t_{PLH}	7 V



- NOTES: A. C_L includes probe and jig capacitance.
 B. Waveform 1 is for an output with internal conditions such that the output is low except when disabled by the output control. Waveform 2 is for an output with internal conditions such that the output is high except when disabled by the output control.
 C. All input pulses are supplied by generators having the following characteristics: PRR $\leq 10 \text{ MHz}$, $Z_O = 50 \Omega$, $t_r \leq 2.5 \text{ ns}$, $t_f \leq 2.5 \text{ ns}$
 D. The outputs are measured one at a time with one transition per measurement.

Figure 1. Load Circuit and Voltage Waveforms

PACKAGING INFORMATION

Orderable Device	Status ⁽¹⁾	Package Type	Package Drawing	Pins	Package Qty	Eco Plan ⁽²⁾	Lead/Ball Finish	MSL Peak Temp ⁽³⁾
SN74ABT833DW	ACTIVE	SOIC	DW	24	25	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74ABT833DWE4	ACTIVE	SOIC	DW	24	25	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74ABT833DWG4	ACTIVE	SOIC	DW	24	25	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74ABT833DWR	ACTIVE	SOIC	DW	24	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74ABT833DWRE4	ACTIVE	SOIC	DW	24	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74ABT833DWRG4	ACTIVE	SOIC	DW	24	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74ABT833NT	ACTIVE	PDIP	NT	24	15	Pb-Free (RoHS)	CU NIPDAU	N / A for Pkg Type
SN74ABT833NTE4	ACTIVE	PDIP	NT	24	15	Pb-Free (RoHS)	CU NIPDAU	N / A for Pkg Type

⁽¹⁾ The marketing status values are defined as follows:

ACTIVE: Product device recommended for new designs.

LIFEBUY: TI has announced that the device will be discontinued, and a lifetime-buy period is in effect.

NRND: Not recommended for new designs. Device is in production to support existing customers, but TI does not recommend using this part in a new design.

PREVIEW: Device has been announced but is not in production. Samples may or may not be available.

OBSOLETE: TI has discontinued the production of the device.

⁽²⁾ Eco Plan - The planned eco-friendly classification: Pb-Free (RoHS), Pb-Free (RoHS Exempt), or Green (RoHS & no Sb/Br) - please check <http://www.ti.com/productcontent> for the latest availability information and additional product content details.

TBD: The Pb-Free/Green conversion plan has not been defined.

Pb-Free (RoHS): TI's terms "Lead-Free" or "Pb-Free" mean semiconductor products that are compatible with the current RoHS requirements for all 6 substances, including the requirement that lead not exceed 0.1% by weight in homogeneous materials. Where designed to be soldered at high temperatures, TI Pb-Free products are suitable for use in specified lead-free processes.

Pb-Free (RoHS Exempt): This component has a RoHS exemption for either 1) lead-based flip-chip solder bumps used between the die and package, or 2) lead-based die adhesive used between the die and leadframe. The component is otherwise considered Pb-Free (RoHS compatible) as defined above.

Green (RoHS & no Sb/Br): TI defines "Green" to mean Pb-Free (RoHS compatible), and free of Bromine (Br) and Antimony (Sb) based flame retardants (Br or Sb do not exceed 0.1% by weight in homogeneous material)

⁽³⁾ MSL, Peak Temp. -- The Moisture Sensitivity Level rating according to the JEDEC industry standard classifications, and peak solder temperature.

Important Information and Disclaimer: The information provided on this page represents TI's knowledge and belief as of the date that it is provided. TI bases its knowledge and belief on information provided by third parties, and makes no representation or warranty as to the accuracy of such information. Efforts are underway to better integrate information from third parties. TI has taken and continues to take reasonable steps to provide representative and accurate information but may not have conducted destructive testing or chemical analysis on incoming materials and chemicals. TI and TI suppliers consider certain information to be proprietary, and thus CAS numbers and other limited information may not be available for release.

In no event shall TI's liability arising out of such information exceed the total purchase price of the TI part(s) at issue in this document sold by TI to Customer on an annual basis.

TAPE AND REEL INFORMATION

QUADRANT ASSIGNMENTS FOR PIN 1 ORIENTATION IN TAPE


*All dimensions are nominal

Device	Package Type	Package Drawing	Pins	SPQ	Reel Diameter (mm)	Reel Width W1 (mm)	A0 (mm)	B0 (mm)	K0 (mm)	P1 (mm)	W (mm)	Pin1 Quadrant
SN74ABT833DWR	SOIC	DW	24	2000	330.0	24.4	10.75	15.7	2.7	12.0	24.0	Q1

TAPE AND REEL BOX DIMENSIONS



*All dimensions are nominal

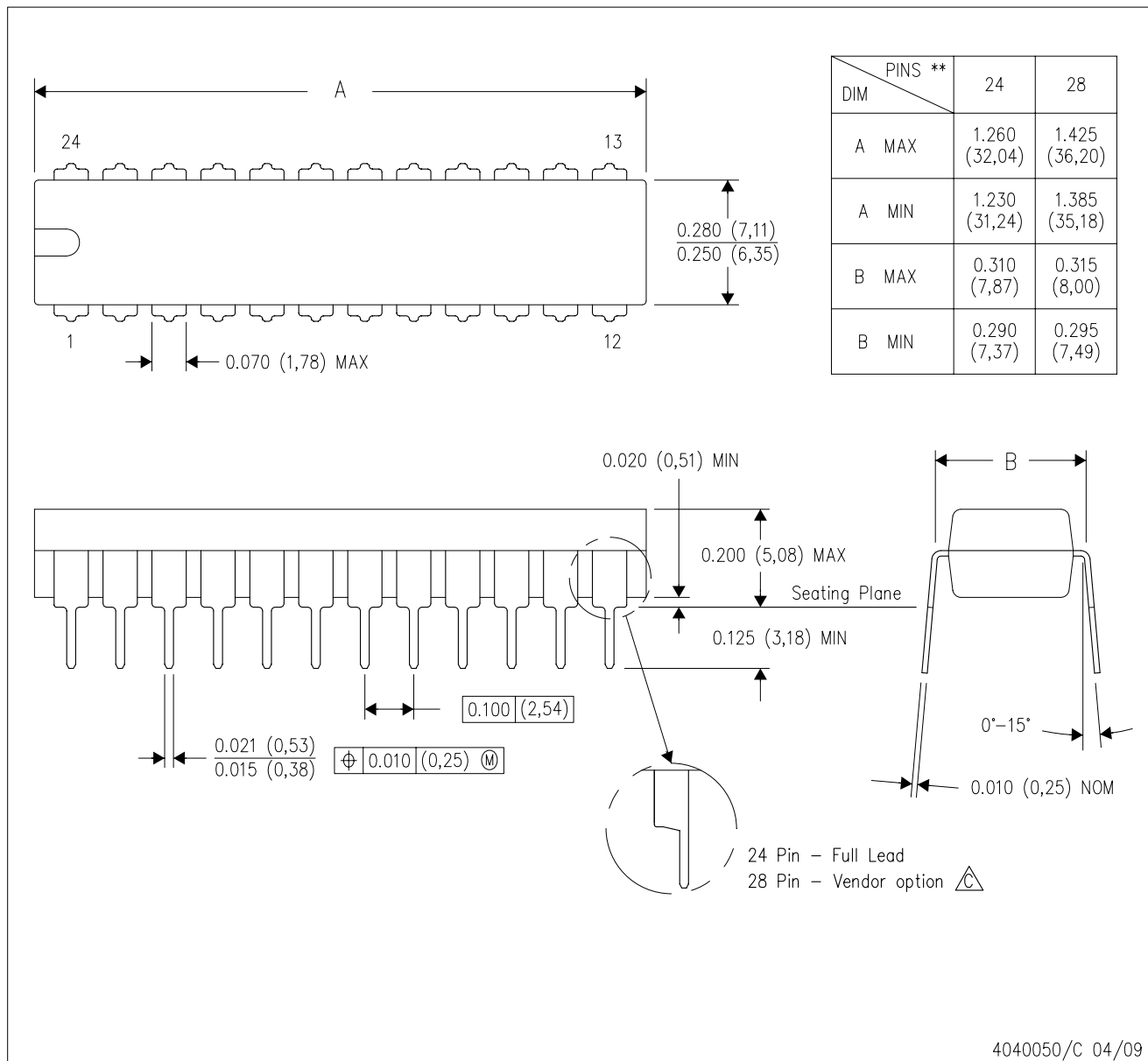
Device	Package Type	Package Drawing	Pins	SPQ	Length (mm)	Width (mm)	Height (mm)
SN74ABT833DWR	SOIC	DW	24	2000	346.0	346.0	41.0

MECHANICAL DATA

NT (R-PDIP-T**)

PLASTIC DUAL-IN-LINE PACKAGE

24 PINS SHOWN



- NOTES:
- A. All linear dimensions are in millimeters. Dimensioning and tolerancing per ASME Y14.5M-1994.
 - B. This drawing is subject to change without notice.
 - \triangle The 28 pin end lead shoulder width is a vendor option, either half or full width.

DW (R-PDSO-G24)

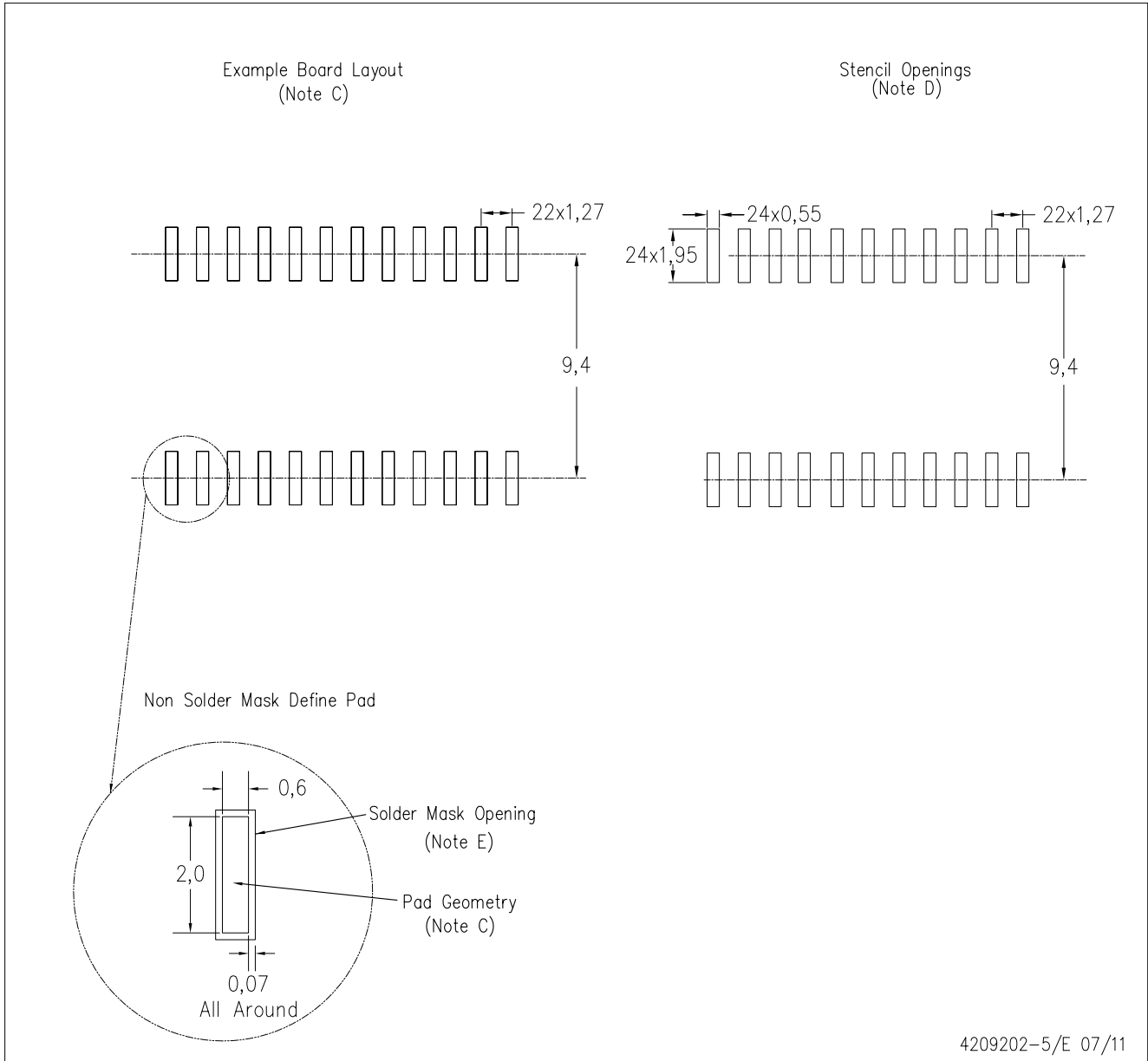
PLASTIC SMALL OUTLINE



- NOTES:
- All linear dimensions are in inches (millimeters). Dimensioning and tolerancing per ASME Y14.5M-1994.
 - This drawing is subject to change without notice.
 - Body dimensions do not include mold flash or protrusion not to exceed 0.006 (0,15).
 - Falls within JEDEC MS-013 variation AD.

DW (R-PDSO-G24)

PLASTIC SMALL OUTLINE



- NOTES:
- A. All linear dimensions are in millimeters.
 - B. This drawing is subject to change without notice.
 - C. Refer to IPC7351 for alternate board design.
 - D. Laser cutting apertures with trapezoidal walls and also rounding corners will offer better paste release. Customers should contact their board assembly site for stencil design recommendations. Refer to IPC-7525
 - E. Customers should contact their board fabrication site for solder mask tolerances between and around signal pads.

IMPORTANT NOTICE

Texas Instruments Incorporated and its subsidiaries (TI) reserve the right to make corrections, modifications, enhancements, improvements, and other changes to its products and services at any time and to discontinue any product or service without notice. Customers should obtain the latest relevant information before placing orders and should verify that such information is current and complete. All products are sold subject to TI's terms and conditions of sale supplied at the time of order acknowledgment.

TI warrants performance of its hardware products to the specifications applicable at the time of sale in accordance with TI's standard warranty. Testing and other quality control techniques are used to the extent TI deems necessary to support this warranty. Except where mandated by government requirements, testing of all parameters of each product is not necessarily performed.

TI assumes no liability for applications assistance or customer product design. Customers are responsible for their products and applications using TI components. To minimize the risks associated with customer products and applications, customers should provide adequate design and operating safeguards.

TI does not warrant or represent that any license, either express or implied, is granted under any TI patent right, copyright, mask work right, or other TI intellectual property right relating to any combination, machine, or process in which TI products or services are used. Information published by TI regarding third-party products or services does not constitute a license from TI to use such products or services or a warranty or endorsement thereof. Use of such information may require a license from a third party under the patents or other intellectual property of the third party, or a license from TI under the patents or other intellectual property of TI.

Reproduction of TI information in TI data books or data sheets is permissible only if reproduction is without alteration and is accompanied by all associated warranties, conditions, limitations, and notices. Reproduction of this information with alteration is an unfair and deceptive business practice. TI is not responsible or liable for such altered documentation. Information of third parties may be subject to additional restrictions.

Resale of TI products or services with statements different from or beyond the parameters stated by TI for that product or service voids all express and any implied warranties for the associated TI product or service and is an unfair and deceptive business practice. TI is not responsible or liable for any such statements.

TI products are not authorized for use in safety-critical applications (such as life support) where a failure of the TI product would reasonably be expected to cause severe personal injury or death, unless officers of the parties have executed an agreement specifically governing such use. Buyers represent that they have all necessary expertise in the safety and regulatory ramifications of their applications, and acknowledge and agree that they are solely responsible for all legal, regulatory and safety-related requirements concerning their products and any use of TI products in such safety-critical applications, notwithstanding any applications-related information or support that may be provided by TI. Further, Buyers must fully indemnify TI and its representatives against any damages arising out of the use of TI products in such safety-critical applications.

TI products are neither designed nor intended for use in military/aerospace applications or environments unless the TI products are specifically designated by TI as military-grade or "enhanced plastic." Only products designated by TI as military-grade meet military specifications. Buyers acknowledge and agree that any such use of TI products which TI has not designated as military-grade is solely at the Buyer's risk, and that they are solely responsible for compliance with all legal and regulatory requirements in connection with such use.

TI products are neither designed nor intended for use in automotive applications or environments unless the specific TI products are designated by TI as compliant with ISO/TS 16949 requirements. Buyers acknowledge and agree that, if they use any non-designated products in automotive applications, TI will not be responsible for any failure to meet such requirements.

Following are URLs where you can obtain information on other Texas Instruments products and application solutions:

Products

Audio	www.ti.com/audio
Amplifiers	amplifier.ti.com
Data Converters	dataconverter.ti.com
DLP® Products	www.dlp.com
DSP	dsp.ti.com
Clocks and Timers	www.ti.com/clocks
Interface	interface.ti.com
Logic	logic.ti.com
Power Mgmt	power.ti.com
Microcontrollers	microcontroller.ti.com
RFID	www.ti-rfid.com
OMAP Mobile Processors	www.ti.com/omap
Wireless Connectivity	www.ti.com/wirelessconnectivity

Applications

Automotive and Transportation	www.ti.com/automotive
Communications and Telecom	www.ti.com/communications
Computers and Peripherals	www.ti.com/computers
Consumer Electronics	www.ti.com/consumer-apps
Energy and Lighting	www.ti.com/energy
Industrial	www.ti.com/industrial
Medical	www.ti.com/medical
Security	www.ti.com/security
Space, Avionics and Defense	www.ti.com/space-avionics-defense
Video and Imaging	www.ti.com/video

TI E2E Community Home Page

e2e.ti.com

Mailing Address: Texas Instruments, Post Office Box 655303, Dallas, Texas 75265
Copyright © 2012, Texas Instruments Incorporated