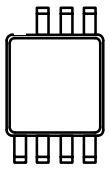
2-

T 330

The 7WBD3305 is an advanced high−speed low−power 2−bit translating bus switch in ultra−small footprints.

Features

- High Speed: t_{PD} = 0.25 ns (Max) @ V_{CC} = 4.5 V
- 3 Ω Switch Connection Between 2 Ports
- Power Down Protection Provided on Inputs
- Zero Bounce
- TTL−Compatible Control Inputs
- Ultra−Small Pb−Free Packages
- These are Pb−Free Devices



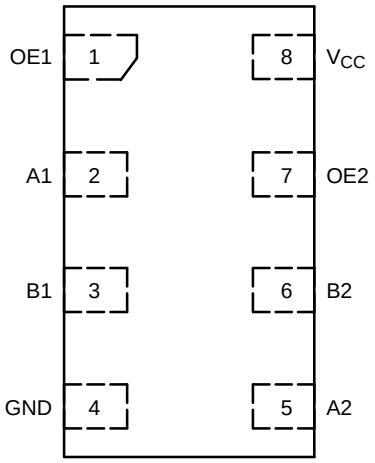


Figure 1. UDFN8
(Top Thru−View)

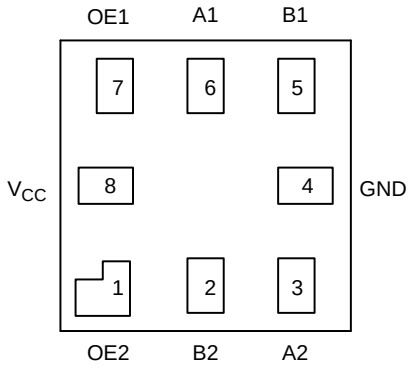


Figure 2. UQFN8
(Top Thru−View)

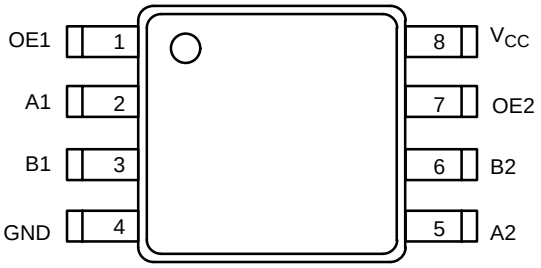


Figure 3. US8/Micro8
(Top View)

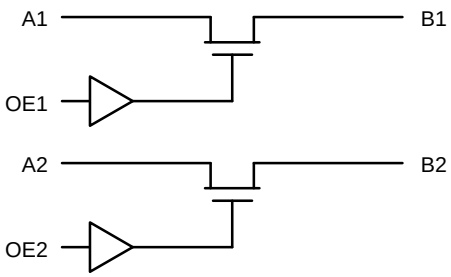


Figure 4. Logic Diagram

FUNCTION TABLE

Input OEn	Function
L	Disconnect
H	Bn = An

MAXIMUM RATINGS

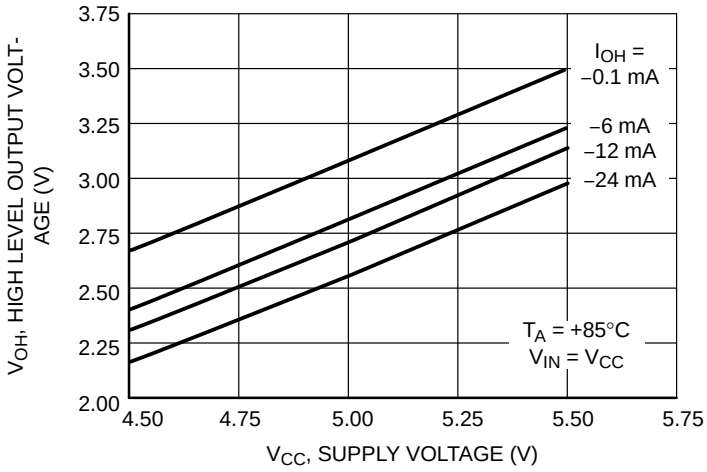
Symbol	Parameter	Value	Unit
V_{CC}	DC Supply Voltage	−0.5 to +7.0	

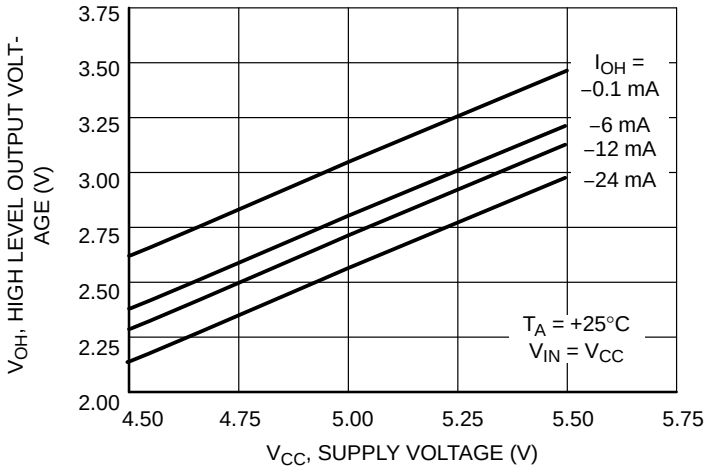
DC ELECTRICAL CHARACTERISTICS

Symbol	Parameter	Conditions	V_{CC} (V)	T_A = 25° C			T_A = −55° C to +125° C		Unit
				Min	Typ	Max	Min	Max	
V_{IK}	Clamp Diode Voltage	$I_{I/O}$ = −18 mA	4.5			−1.2		−1.2	V
V_{IH}	High−Level Input Voltage (Control)		4.0 to 5.5	2.0			2.0		V
V_{IL}	Low−Level Input Voltage (Control)		4.0 to 5.5			0.8		0.8	V
V_{OH}	Output Voltage High	See Figure 5							
I_{IN}	Input Leakage Current	0 ≤ V_{IN} ≤ 5.5 V	5.5			±0.1		±1.0	μA
I_{OFF}	Power Off Leakage Current	$V_{I/O}$ = 0 to 5.5 V	0			±0.1		±1.0	μA
I_{CC}	Quiescent Supply Current	I_O = 0, V_{IN} = V_{CC} or 0 V OE1 = OE2 = V_{CC} OE1 = OE2 = GND	5.5			 ±1.0 ±0.1		 ±1.0 ±1.0	 mA μA
ΔI_{CC}	Increase in Supply Current (Control Pin)	One input at 3.4 V; Other inputs at V_{CC} or GND	5.5					2.5	mA
R_{ON}	Switch ON Resistance	$V_{I/O}$ = 0, $I_{I/O}$ = 64 mA $I_{I/O}$ = 30 mA	4.5		 3 3	 7 7		 7 7	Ω
		$V_{I/O}$ = 2.4, $I_{I/O}$ = 15 mA			15	50		50	
		$V_{I/O}$ = 2.4, $I_{I/O}$ = 15 mA	4.0		50	70		70	

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unl3ref552.18971 83.395 reo5 0 we9 600.inputs5

TYPICAL DC CHARACTERISTICS





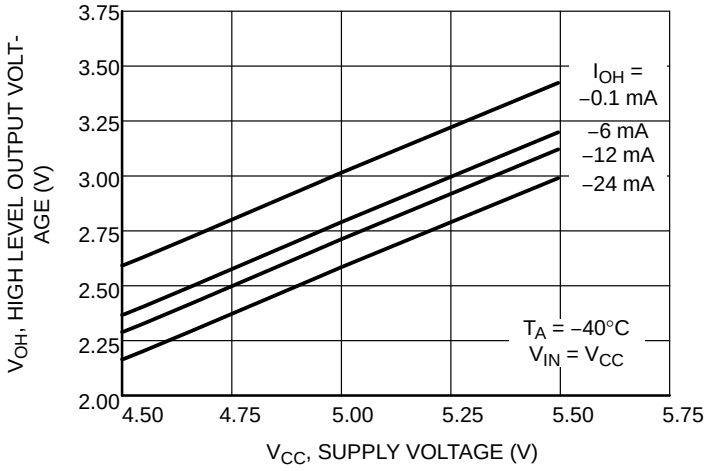
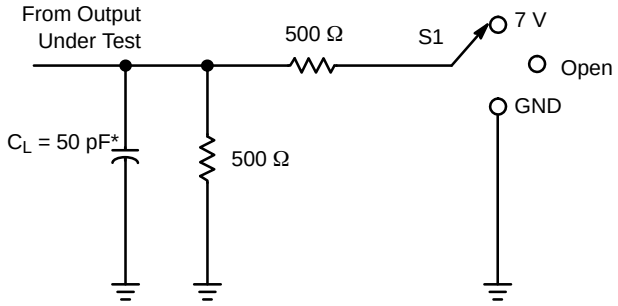


Figure 5. Output Voltage High vs Supply Voltage

AC LOADING AND WAVEFORMS

Parameter Measurement Information



*C_L includes probes and jig capacitance.

Test	S1
t_{PD}	Open
t_{PLZ}/t_{PZL}	7 V
t_{PHZ}/t_{PZH}	Open

ORDERING INFORMATION

Device	Package	Shipping†
7WBD3305USG	US8 (Pb−Free)	3000 / Tape & Reel
7WBD3305MUTAG	UDFN8 (Pb−Free)	3000 / Tape & Reel
7WBD3305AMUTCG	UQFN8 (Pb−Free)	3000 / Tape & Reel
7WBD3305DMR2G		

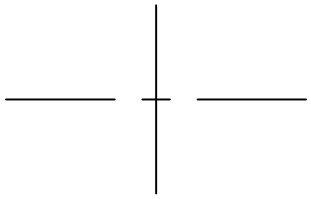
PACKAGE DIMENSIONS

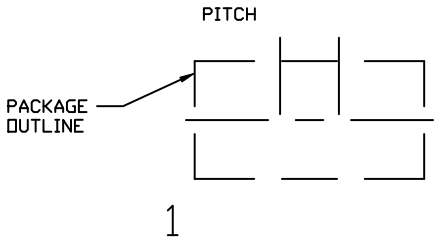
UDFN8 1.8 x 1.2, 0.4P
CASE 517AJ
ISSUE O

NOTES:
1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 1994.
2. CONTROLLING DIMENSION: MILLIMETERS.

PACKAGE DIMENSIONS

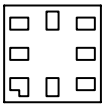
UDFN8 1.95x1.0, 0.5P
CASE 517CA
ISSUE A

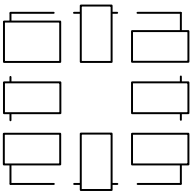




PACKAGE DIMENSIONS

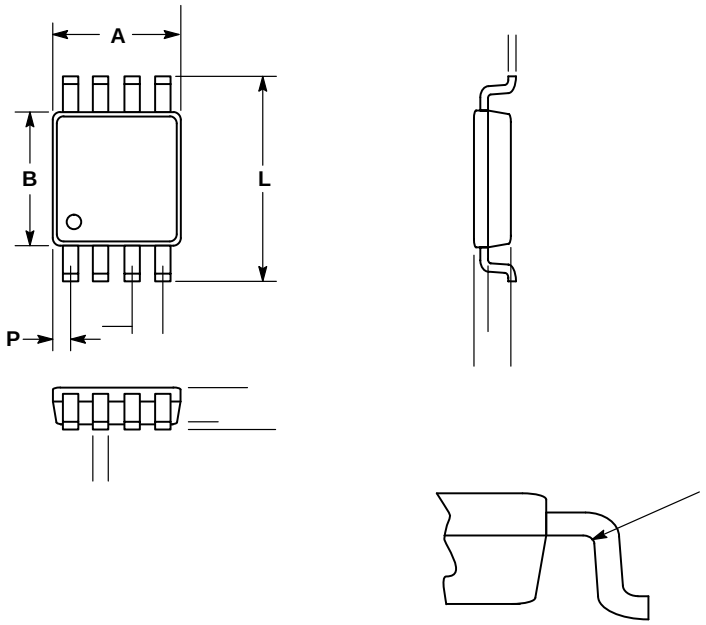
UQFN8, 1.6x1.6, 0.5P
CASE 523AN





PACKAGE DIMENSIONS

US8
CASE 493
ISSUE D



NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. DIMENSION A DOES NOT INCLUDE MOLD FLASH, PROTRUSION OR GATE BURR. MOLD FLASH. PROTRUSION AND GATE BURR SHALL NOT EXCEED 0.14MM (0.0055") PER SIDE.
4. DIMENSION B DOES NOT INCLUDE INTERLEAD FLASH OR PROTRUSION. INTERLEAD FLASH AND PROTRUSION SHALL NOT EXCEED 0.14MM (0.0055") PER SIDE.
5. LEAD FINISH IS SOLDER PLATING WITH THICKNESS OF 0.0076−0.0203MM (0.003−0.008").
6. ALL TOLERANCE UNLESS OTHERWISE SPECIFIED ±0.0508MM (0.0002").

	MILLIMETERS		INCHES	
DIM	MIN	MAX	MIN	MAX
A	1.90	2.10	0.075	0.083
B	2.20	2.40	0.087	0.094
C	0.60	0.90	0.024	0.035
D	0.17	0.25	0.007	0.010
F	0.20	0.35	0.008	0.014
G	0.50 BSC		0.020 BSC	
H	0.40 REF		0.016 REF	
J	0.10	0.18	0.004	0.007
K	0.00	0.10	0.000	0.004
L	3.00	3.20	0.118	0.128
M	0	6	0	6
N	0	10	0	10
P	0.23	0.34	0.010	0.013
R	0.23	0.33	0.009	0.013
S	0.37	0.47	0.015	0.019
U	0.60	0.80	0.024	0.031
V	0.12 BSC		0.005 BSC	

PACKAGE DIMENSIONS

Micro8
CASE 846A
ISSUE K

NOTES:

DIM	MILLIMETERS		
	MIN.	NOM.	
A	---	---	
A1	0.05	0.08	
c	0.13	0.18	
E			
e	0.65 BSC		
L	0.40	0.55	

RECOMMENDED
MOUNTING FOOTPRINT