CMOS Digital Integrated Circuits Silicon Monolithic

74AVCH2T45FK

1. Functional Description

- 2-Bit Dual-Supply Bus Transceiver with Bushold and Configurable Power Supply

2. General

The 74AVCH2T45FK is a dual-supply, high-speed CMOS 2-bit bus transceiver with bus hold circuitry that allows interfacing between two systems with supply voltages from 0.8 V to 3.6 V.
The two supply voltages can be user-configurable within the operating range and the sequence of supply voltage ON/OFF can be freely set. The bus hold function holds the voltage at the bus terminal input.
When the transmission direction switching input DIR is set to "H", bus A becomes an input and bus B becomes an output, and when set to "L", bus A becomes an output and bus B becomes an input. The input (DIR) has a tolerant function that allows input of up to 3.6 V regardless of the supply voltage. By setting one or both power supplies to GND, the internal buffer is placed in a high-impedance mode, and the bus terminals supplied with power are placed in bus hold mode.
All inputs are equipped with protection circuits to protect the devices from electrostatic discharge damage.

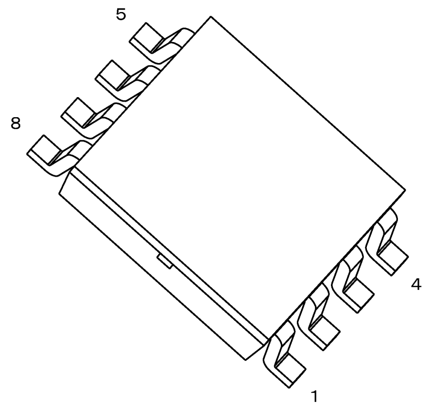
3. Features

(1) Wide operating temperature range: T_{opr} = -40 to 125 °C
(2) Wide supply voltage value: V_{CCA} = 0.8 to 3.6 V, V_{CCB} = 0.8 to 3.6 V
(3) Bidirectional interface
(4) High-speed operation: t_{pd} = 4.1 ns (max) (V_{CCA} = 3.3 ± 0.3 V, V_{CCB} = 3.3 ± 0.3 V)
(5) Output current: $|I_{OH}|/I_{OL}$ = ± 12 mA (min) (V_{CC} = 3.0 V)
$|I_{OH}|/I_{OL}$ = ± 9 mA (min) (V_{CC} = 2.3 V)
$|I_{OH}|/I_{OL}$ = ± 6 mA (min) (V_{CC} = 1.65 V)
$|I_{OH}|/I_{OL}$ = ± 4 mA (min) (V_{CC} = 1.4 V)
$|I_{OH}|/I_{OL}$ = ± 2 mA (min) (V_{CC} = 1.1 V)
(6) Small package: US8 (Package code : SOT-765)
(7) Low power dissipation: Suitable for battery-driven applications such as PDAs and cellular phones.
(8) 3.6 V tolerance and power-down protection are provided to all inputs and outputs.

Start of commercial production
2025-08

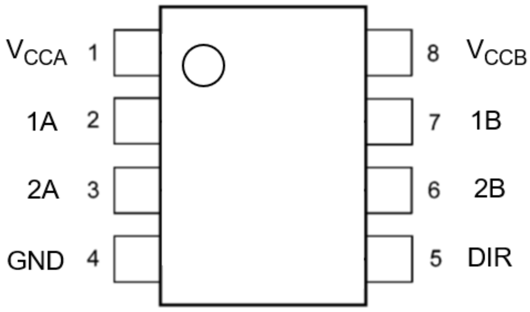
2026-04-21
Rev.2.0.A

4. Packaging

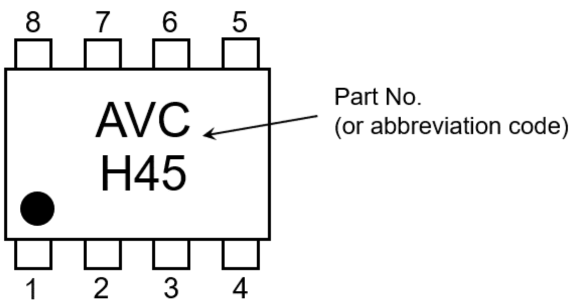


US8

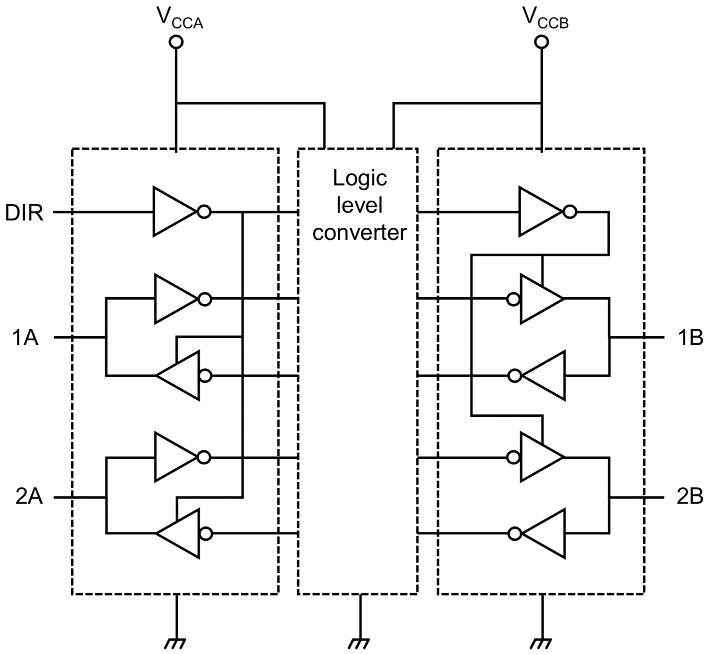
5. Pin Assignment



6. Marking



7. Block Diagram



8. Truth Table

Supply voltage V_{CCA}	Supply voltage V_{CCB}	Input DIR	Input/Output Bus A	Input/Output Bus B	Function
0.8 to 3.6 V	0.8 to 3.6 V	L	Output	Input	A = B
0.8 to 3.6 V	0.8 to 3.6 V	H	Input	Output	B = A
GND	0.8 to 3.6 V	X	Z	Z	Bus-Hold
0.8 to 3.6 V	GND	X	Z	Z	Bus-Hold
GND	GND	X	Z	Z	Z

X: Don't care
Z: High impedance

9. Absolute Maximum Ratings (Note) (Unless otherwise specified, T_a = 25 °C)

Characteristics	Symbol	Note	Rating	Unit
Supply voltage	V_{CCA}		-0.5 to 4.6	V
	V_{CCB}		-0.5 to 4.6	
Input voltage (DIR)	V_{IN}		-0.5 to 4.6	V
Bus I/O voltage	$V_{I/OA}$	(Note 1)	-0.5 to 4.6	V
		(Note 2)	-0.5 to V_{CCA} + 0.5	
	$V_{I/OB}$	(Note 1)	-0.5 to 4.6	
		(Note 2)	-0.5 to V_{CCB} + 0.5	
Input diode current	I_{IK}		-50	mA
I/O diode current	$I_{I/OK}$	(Note 3)	-50	mA
Output current	I_{OUTA}		±50	mA
	I_{OUTB}		±50	
V_{CC}/ground current per supply pin	I_{CCA}		100	mA
	I_{CCB}		100	
Power dissipation	P_D		200	mW
Storage temperature	T_{stg}		-65 to 150	°C

Note: Exceeding any of the absolute maximum ratings, even briefly, lead to deterioration in IC performance or even destruction.

Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) are within the absolute maximum ratings and the operating ranges.

Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/"Derating Concept and Methods") and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

Note 1: High impedance state.

Note 2: Input/output state, bus hold mode. I_{OUT} absolute maximum rating must be observed.

Note 3: V_{OUT} < GND

10. Operating Ranges (Note)

Characteristics	Symbol	Note	Test Condition	Rating	Unit
Supply voltage	V_{CCA}		—	0.8 to 3.6	V
	V_{CCB}		—	0.8 to 3.6	
Input voltage (DIR)	V_{IN}		—	0 to 3.6	V
Bus I/O voltage	$V_{I/OA}$	(Note 1)	—	0 to 3.6	V
		(Note 2)	—	0 to V_{CCA}	
	$V_{I/OB}$	(Note 1)	—	0 to 3.6	
		(Note 2)	—	0 to V_{CCB}	
Output current	I_{OUTA}		V_{CCA} = 3.0 to 3.6 V	±12	mA
			V_{CCA} = 2.3 to 2.7 V	±9	
			V_{CCA} = 1.65 to 1.95 V	±6	
			V_{CCA} = 1.4 to 1.6 V	±4	
			V_{CCA} = 1.1 to 1.2 V	±2	
			V_{CCA} = 0.95 to 1.05 V	±1	
			V_{CCA} = 0.85 to 0.95 V	±0.5	
	I_{OUTB}		V_{CCB} = 3.0 to 3.6 V	±12	
			V_{CCB} = 2.3 to 2.7 V	±9	
			V_{CCB} = 1.65 to 1.95 V	±6	
			V_{CCB} = 1.4 to 1.6 V	±4	
			V_{CCB} = 1.1 to 1.2 V	±2	
			V_{CCB} = 0.95 to 1.05 V	±1	
			V_{CCB} = 0.85 to 0.95 V	±0.5	
Operating temperature	T_{opr}		—	-40 to 125	°C
Input rise and fall times	dt/dv	(Note 3)	V_{CC} = 0.8 V	0 to 20	ns/V
			V_{CC} = 1.2 V	0 to 20	
			V_{CC} = 1.65 to 1.95 V	0 to 20	
			V_{CC} = 2.3 to 2.7 V	0 to 20	
			V_{CC} = 3.0 to 3.6 V	0 to 10	

Note: The operating ranges must be maintained to ensure the normal operation of the device.
Unused inputs and bus inputs must be tied to either V_{CC} or GND.

Note 1: High impedance state.

Note 2: Input/output state, bus hold state. I_{OUT} absolute maximum rating must be observed.

Note 3: V_{CC} = V_{CCA}, V_{CCB}

11. Electrical Characteristics

11.1. DC Characteristics (Unless otherwise specified, T_a = -40 to 85 ℃)

Characteristics	Symbol	Test Condition		V_{CCA} (V)	V_{CCB} (V)	Min	Max	Unit
High-level input voltage	V_{IHA}	A, DIR		0.8 to 1.95	0.8 to 3.6	V_{CCA} × 0.70	—	V
				2.3 to 2.7	0.8 to 3.6	1.6	—	
				3.0 to 3.6	0.8 to 3.6	2.0	—	
	V_{IHB}	B		0.8 to 3.6	0.8 to 1.95	V_{CCB} × 0.70	—	
				0.8 to 3.6	2.3 to 2.7	1.6	—	
				0.8 to 3.6	3.0 to 3.6	2.0	—	
Low-level input voltage	V_{ILA}	A, DIR		0.8 to 1.95	0.8 to 3.6	—	V_{CCA} × 0.30	V
				2.3 to 2.7	0.8 to 3.6	—	0.7	
				3.0 to 3.6	0.8 to 3.6	—	0.9	
	V_{ILB}	B		0.8 to 3.6	0.8 to 1.95	—	V_{CCB} × 0.30	
				0.8 to 3.6	2.3 to 2.7	—	0.7	
				0.8 to 3.6	3.0 to 3.6	—	0.9	
High-level output voltage	V_{OH}	A, B Output H	I_{OH} = -0.1 mA	0.8 to 3.6	0.8 to3.6	V_{CCO} -0.1	—	V
			I_{OH} = -0.5 mA	0.85	0.85	0.65	—	
			I_{OH} = -1 mA	0.95	0.95	0.75	—	
			I_{OH} = -2 mA	1.1	1.1	0.85	—	
			I_{OH} = -4 mA	1.4	1.4	1.05	—	
			I_{OH} = -6 mA	1.65	1.65	1.2	—	
			I_{OH} = -9 mA	2.3	2.3	1.75	—	
			I_{OH} = -12 mA	3.0	3.0	2.3	—	
Low-level output voltage	V_{OL}	A, B Output L	I_{OL} = 0.1 mA	0.8 to 3.6	0.8 to 3.6	—	0.1	V
			I_{OL} = 0.5 mA	0.85	0.85	—	0.2	
			I_{OL} = 1 mA	0.95	0.95	—	0.2	
			I_{OL} = 2 mA	1.1	1.1	—	0.25	
			I_{OL} = 4 mA	1.4	1.4	—	0.35	
			I_{OL} = 6 mA	1.65	1.65	—	0.45	
			I_{OL} = 9 mA	2.3	2.3	—	0.55	
			I_{OL} = 12 mA	3.0	3.0	—	0.7	

Characteristics	Symbol	Test Condition	V_{CCA} (V)	V_{CCB} (V)	Min	Typ.	Max	Unit
Input leakage current	I_{IN}	V_{IN}(DIR) = 0 V to 3.6 V	0.8 to 3.6	0 to 3.6	—	—	±1	μA
Bushold input minimum drive hold current	$I_{I(HOLD)}$	V_I = 0.24 V	0.8	0.8	3	—	—	μA
		V_I = 0.56 V	0.8	0.8	-3	—	—	
		V_I = 0.26 V	0.85	0.85	4	—	—	
		V_I = 0.6 V	0.85	0.85	-4	—	—	
		V_I = 0.29 V	0.95	0.95	6	—	—	
		V_I = 0.67 V	0.95	0.95	-6	—	—	
		V_I = 0.33 V	1.1	1.1	10	—	—	
		V_I = 0.77 V	1.1	1.1	-10	—	—	
		V_I = 0.42 V	1.4	1.4	15	—	—	
		V_I = 0.98 V	1.4	1.4	-15	—	—	
		V_I = 0.50 V	1.65	1.65	25	—	—	
		V_I = 1.15 V	1.65	1.65	-25	—	—	
		V_I = 0.7 V	2.3	2.3	45	—	—	
		V_I = 1.6 V	2.3	2.3	-45	—	—	
		V_I = 0.8 V	3.0	3.0	100	—	—	
		V_I = 2.0 V	3.0	3.0	-100	—	—	
Bushold input over-drive current to change state	$I_{I(OD)}$	V_I = L → H	0.8	0.8	50	—	—	μA
		V_I = H → L	0.8	0.8	-50	—	—	
		V_I = L → H	0.95	0.95	65	—	—	
		V_I = H → L	0.95	0.95	-65	—	—	
		V_I = L → H	1.05	1.05	80	—	—	
		V_I = H → L	1.05	1.05	-80	—	—	
		V_I = L → H	1.3	1.3	110	—	—	
		V_I = H → L	1.3	1.3	-110	—	—	
		V_I = L → H	1.6	1.6	150	—	—	
		V_I = H → L	1.6	1.6	-150	—	—	
		V_I = L → H	1.95	1.95	250	—	—	
		V_I = H → L	1.95	1.95	-250	—	—	
		V_I = L → H	2.7	2.7	400	—	—	
		V_I = H → L	2.7	2.7	-400	—	—	
		V_I = L → H	3.6	3.6	600	—	—	
		V_I = H → L	3.6	3.6	-600	—	—	
Power-OFF leakage current	I_{OFFA}	V_{IOA} = 0 V to 3.6 V	0	0.8 to 3.6	—	—	±1	μA
	I_{OFFB}	V_{IOB} = 0 V to 3.6 V	0.8 to 3.6	0	—	—	±1	
Quiescent supply current	I_{CCA}	Fix the input to V_{CC} or GND.	0.8 to 3.6	0.8 to 3.6	—	—	5	μA
			3.6	0	—	—	5	
	I_{CCB}	Fix the input to V_{CC} or GND.	0.8 to 3.6	0.8 to 3.6	—	—	5	
			0	3.6	—	—	5	

11.2. DC Characteristics (Unless otherwise specified, T_a = -40 to 125 °C)

Characteristics	Symbol	Test Condition		V_{CCA} (V)	V_{CCB} (V)	Min	Max	Unit
High-level input voltage	V_{IHA}	A, DIR		0.8 to 1.95	0.8 to 3.6	V_{CCA} × 0.70	—	V
				2.3 to 2.7	0.8 to 3.6	1.6	—	
				3.0 to 3.6	0.8 to 3.6	2.0	—	
	V_{IHB}	B		0.8 to 3.6	0.8 to 1.95	V_{CCB} × 0.70	—	
				0.8 to 3.6	2.3 to 2.7	1.6	—	
				0.8 to 3.6	3.0 to 3.6	2.0	—	
Low-level input voltage	V_{ILA}	A, DIR		0.8 to 1.95	0.8 to 3.6	—	V_{CCA} × 0.30	V
				2.3 to 2.7	0.8 to 3.6	—	0.7	
				3.0 to 3.6	0.8 to 3.6	—	0.9	
	V_{ILB}	B		0.8 to 3.6	0.8 to 1.95	—	V_{CCB} × 0.30	
				0.8 to 3.6	2.3 to 2.7	—	0.7	
				0.8 to 3.6	3.0 to 3.6	—	0.9	
High-level output voltage	V_{OH}	A, B Output H	I_{OH} = -0.1 mA	0.8 to 3.6	0.8 to 3.6	V_{CCO} -0.1	—	V
			I_{OH} = -0.5 mA	0.85	0.85	0.65	—	
			I_{OH} = -1 mA	0.95	0.95	0.75	—	
			I_{OH} = -2 mA	1.1	1.1	0.85	—	
			I_{OH} = -4 mA	1.4	1.4	1.05	—	
			I_{OH} = -6 mA	1.65	1.65	1.2	—	
			I_{OH} = -9 mA	2.3	2.3	1.75	—	
			I_{OH} = -12 mA	3.0	3.0	2.3	—	
Low-level output voltage	V_{OL}	A, B Output L	I_{OL} = 0.1 mA	0.8 to 3.6	0.8 to 3.6	—	0.1	V
			I_{OL} = 0.5 mA	0.85	0.85	—	0.2	
			I_{OL} = 1 mA	0.95	0.95	—	0.2	
			I_{OL} = 2 mA	1.1	1.1	—	0.25	
			I_{OL} = 4 mA	1.4	1.4	—	0.35	
			I_{OL} = 6 mA	1.65	1.65	—	0.45	
			I_{OL} = 9 mA	2.3	2.3	—	0.55	
			I_{OL} = 12 mA	3.0	3.0	—	0.7	

Characteristics	Symbol	Test Condition	V_{CCA} (V)	V_{CCB} (V)	Min	Typ.	Max	Unit
Input leakage current	I_{IN}	V_{IN}(DIR) = 0 V to 3.6 V	0.8 to 3.6	0 to 3.6	—	—	±2.5	μA
Bushold input minimum drive hold current	$I_{I(HOLD)}$	V_I = 0.24 V	0.8	0.8	1	—	—	μA
		V_I = 0.56 V	0.8	0.8	-1	—	—	
		V_I = 0.26 V	0.85	0.85	4	—	—	
		V_I = 0.6 V	0.85	0.85	-4	—	—	
		V_I = 0.29 V	0.95	0.95	6	—	—	
		V_I = 0.67 V	0.95	0.95	-6	—	—	
		V_I = 0.33 V	1.1	1.1	10	—	—	
		V_I = 0.77 V	1.1	1.1	-10	—	—	
		V_I = 0.42 V	1.4	1.4	15	—	—	
		V_I = 0.98 V	1.4	1.4	-15	—	—	
		V_I = 0.50 V	1.65	1.65	25	—	—	
		V_I = 1.15 V	1.65	1.65	-25	—	—	
		V_I = 0.7 V	2.3	2.3	45	—	—	
		V_I = 1.6 V	2.3	2.3	-45	—	—	
		V_I = 0.8 V	3.0	3.0	100	—	—	
		V_I = 2.0 V	3.0	3.0	-100	—	—	
Bushold input over-drive current to change state	$I_{I(OD)}$	V_I = L → H	0.8	0.8	50	—	—	μA
		V_I = H → L	0.8	0.8	-50	—	—	
		V_I = L → H	0.95	0.95	65	—	—	
		V_I = H → L	0.95	0.95	-65	—	—	
		V_I = L → H	1.05	1.05	80	—	—	
		V_I = H → L	1.05	1.05	-80	—	—	
		V_I = L → H	1.3	1.3	110	—	—	
		V_I = H → L	1.3	1.3	-110	—	—	
		V_I = L → H	1.6	1.6	150	—	—	
		V_I = H → L	1.6	1.6	-150	—	—	
		V_I = L → H	1.95	1.95	250	—	—	
		V_I = H → L	1.95	1.95	-250	—	—	
		V_I = L → H	2.7	2.7	400	—	—	
		V_I = H → L	2.7	2.7	-400	—	—	
		V_I = L → H	3.6	3.6	600	—	—	
		V_I = H → L	3.6	3.6	-600	—	—	
Power-OFF leakage current	I_{OFFA}	V_{IOA} = 0 V to 3.6 V	0	0.8 to 3.6	—	—	±4	μA
	I_{OFFB}	V_{IOB} = 0 V to 3.6 V	0.8 to 3.6	0	—	—	±4	
Quiescent supply current	I_{CCA}	Fix the input to V_{CC} or GND.	0.8 to 3.6	0.8 to 3.6	—	—	10	μA
			3.6	0	—	—	10	
	I_{CCB}	Fix the input to V_{CC} or GND.	0.8 to 3.6	0.8 to 3.6	—	—	10	
			0	3.6	—	—	10	

11.3. AC Characteristics (Note) (V_{CCA} = 0.8 V, T_a = 25 °C)

Characteristics	Symbol	V_{CCB} 0.8 V Typ.	V_{CCB} 0.9 V Typ.	V_{CCB} 1.0 V Typ.	V_{CCB} 1.2 V Typ.	V_{CCB} 1.5 V Typ.	V_{CCB} 1.8 V Typ.	V_{CCB} 2.5 V Typ.	V_{CCB} 3.3 V Typ.	Unit
Propagation delay time (A → B)	t_{PLH}/t_{PHL}	11.4	10.4	9.8	9.8	9.2	9.0	9.7	11.7	ns
Propagation delay time (B → A)		11.4	10.0	9.1	8.0	7.2	6.8	6.2	5.9	
3-state output disable time (DIR → A)	t_{PLZ}/t_{PHZ}	18.7	18.7	18.7	18.6	18.6	18.6	18.7	18.7	
3-state output disable time (DIR → B)		22.0	19.7	17.8	12.4	10.8	10.7	9.9	11.0	
3-state output enable time (DIR → A)	t_{PZL}/t_{PZH} (Note 1)	33.4	29.7	26.9	20.4	18.0	17.5	16.1	16.9	
3-state output enable time (DIR → B)		30.1	29.1	28.5	28.4	27.8	27.6	28.4	30.4	

Note: See Figure 12.1, 13.1, 13.2, table 12.1.1, 12.1.2, 13.1.1 for the measurement circuit.
Note1: Output enable time is obtained from the following formula.
Output enable time (DIR → A) = Output disable time (DIR → B) + Propagation delay time (B → A)
Output enable time (DIR → B) = Output disable time (DIR → A) + Propagation delay time (A → B)

11.4. AC Characteristics (Note) (V_{CCB} = 0.8 V, T_a = 25 °C)

Characteristics	Symbol	V_{CCA} 0.8 V Typ.	V_{CCA} 0.9 V Typ.	V_{CCA} 1.0 V Typ.	V_{CCA} 1.2 V Typ.	V_{CCA} 1.5 V Typ.	V_{CCA} 1.8 V Typ.	V_{CCA} 2.5 V Typ.	V_{CCA} 3.3 V Typ.	Unit
Propagation delay time (A → B)	t_{PLH}/t_{PHL}	11.4	10.0	9.1	8.0	7.2	6.8	6.2	5.9	ns
Propagation delay time (B → A)		11.4	10.4	9.8	9.8	9.2	9.0	9.7	11.7	
3-state output disable time (DIR → A)	t_{PLZ}/t_{PHZ}	18.7	15.1	12.8	6.9	5.1	4.8	3.3	3.7	
3-state output disable time (DIR → B)		22.0	20.0	19.0	18.6	19.3	19.3	20.6	21.9	
3-state output enable time (DIR → A)	t_{PZL}/t_{PZH} (Note 1)	33.4	30.4	28.8	28.4	28.5	28.3	30.3	33.6	
3-state output enable time (DIR → B)		30.1	25.1	21.9	14.9	12.3	11.6	9.5	9.6	

Note: See Figure 12.1, 13.1, 13.2, table 12.1.1, 12.1.2, 13.1.1 for the measurement circuit.
Note 1: Output enable time is obtained from the following formula.
Output enable time (DIR → A) = Output disable time (DIR → B) + Propagation delay time (B → A)
Output enable time (DIR → B) = Output disable time (DIR → A) + Propagation delay time (A → B)

11.5. AC Characteristics (Note) (V_{CCA} = 0.9 ± 0.045 V, T_a = -40 to 85 °C)

Characteristics	Symbol	V_{CCB} 0.9 ± 0.045 V Max	V_{CCB} 1.0 ± 0.05 V Max	V_{CCB} 1.2 ± 0.1 V Max	V_{CCB} 1.5 ± 0.1 V Max	V_{CCB} 1.8 ± 0.15 V Max	V_{CCB} 2.5 ± 0.2 V Max	V_{CCB} 3.3 ± 0.3 V Max	Unit
Propagation delay time (A → B)	t_{PLH}/t_{PHL}	17.7	15.8	15.2	13.8	13.2	13.5	16.7	ns
Propagation delay time (B → A)		17.7	15.2	13.1	11.7	10.7	10.1	10.4	
3-state output disable time (DIR → A)	t_{PLZ}/t_{PHZ}	24.7	24.7	24.7	24.7	24.7	24.8	25.8	
3-state output disable time (DIR → B)		28.1	24.8	18.6	16.1	15.4	13.9	14.6	
3-state output enable time (DIR → A)	t_{PZL}/t_{PZH} (Note 1)	45.8	40.0	31.7	27.8	26.1	24.0	25.0	
3-state output enable time (DIR → B)		42.4	40.5	39.9	38.5	37.9	38.3	42.5	

Note: See Figure 12.1, 13.1, 13.2, table 12.1.1, 12.1.2, 13.1.1 for the measurement circuit.
Note 1: Output enable time is obtained from the following formula.
Output enable time (DIR → A) = Output disable time (DIR → B) + Propagation delay time (B → A)
Output enable time (DIR → B) = Output disable time (DIR → A) + Propagation delay time (A → B)

11.6. AC Characteristics (Note) (V_{CCA} = 1.0 ± 0.05 V, T_a = -40 to 85 ℃)

Characteristics	Symbol	V_{CCB} 0.9 ± 0.045 V Max	V_{CCB} 1.0 ± 0.05 V Max	V_{CCB} 1.2 ± 0.1 V Max	V_{CCB} 1.5 ± 0.1 V Max	V_{CCB} 1.8 ± 0.15 V Max	V_{CCB} 2.5 ± 0.2 V Max	V_{CCB} 3.3 ± 0.3 V Max	Unit
Propagation delay time (A → B)	t_{PLH}/t_{PHL}	15.2	13.6	12.8	11.6	11.4	10.9	11.1	ns
Propagation delay time (B → A)		15.8	13.6	11.2	10.1	9.1	8.6	8.7	
3-state output disable time (DIR → A)	t_{PLZ}/t_{PHZ}	19.6	19.6	19.6	19.6	19.6	19.6	19.6	
3-state output disable time (DIR → B)		25.8	22.6	16.2	14.0	13.3	12.0	12.3	
3-state output enable time (DIR → A)	t_{PZL}/t_{PZH} (Note 1)	41.6	36.2	27.4	24.1	22.4	20.6	21.0	
3-state output enable time (DIR → B)		34.8	33.2	32.4	31.2	31.0	30.5	30.7	

Note: See Figure 12.1, 13.1, 13.2, table 12.1.1, 12.1.2, 13.1.1 for the measurement circuit.
Note 1: Output enable time is obtained from the following formula.
Output enable time (DIR → A) = Output disable time (DIR → B) + Propagation delay time (B → A)
Output enable time (DIR → B) = Output disable time (DIR → A) + Propagation delay time (A → B)

11.7. AC Characteristics (Note) (V_{CCA} = 1.2 ± 0.1 V, T_a = -40 to 85 ℃)

Characteristics	Symbol	V_{CCB} 0.9 ± 0.045 V Max	V_{CCB} 1.0 ± 0.05 V Max	V_{CCB} 1.2 ± 0.1 V Max	V_{CCB} 1.5 ± 0.1 V Max	V_{CCB} 1.8 ± 0.15 V Max	V_{CCB} 2.5 ± 0.2 V Max	V_{CCB} 3.3 ± 0.3 V Max	Unit
Propagation delay time (A → B)	t_{PLH}/t_{PHL}	13.1	11.2	10.7	9.3	8.7	8.7	8.6	ns
Propagation delay time (B → A)		15.2	12.8	10.7	9.1	8.5	7.8	7.6	
3-state output disable time (DIR → A)	t_{PLZ}/t_{PHZ}	12.2	12.2	12.2	12.2	12.2	12.2	12.2	
3-state output disable time (DIR → B)		24.3	20.2	14.9	12.0	11.4	9.7	9.8	
3-state output enable time (DIR → A)	t_{PZL}/t_{PZH} (Note 1)	39.5	33.0	25.6	21.1	19.9	17.5	17.4	
3-state output enable time (DIR → B)		25.3	23.4	22.9	21.5	20.9	20.9	20.8	

Note: See Figure 12.1, 13.1, 13.2, table 12.1.1, 12.1.2, 13.1.1 for the measurement circuit.
Note 1: Output enable time is obtained from the following formula.
Output enable time (DIR → A) = Output disable time (DIR → B) + Propagation delay time (B → A)
Output enable time (DIR → B) = Output disable time (DIR → A) + Propagation delay time (A → B)

11.8. AC Characteristics (Note) (V_{CCA} = 1.5 ± 0.1 V, T_a = -40 to 85 ℃)

Characteristics	Symbol	V_{CCB} 0.9 ± 0.045 V Max	V_{CCB} 1.0 ± 0.05 V Max	V_{CCB} 1.2 ± 0.1 V Max	V_{CCB} 1.5 ± 0.1 V Max	V_{CCB} 1.8 ± 0.15 V Max	V_{CCB} 2.5 ± 0.2 V Max	V_{CCB} 3.3 ± 0.3 V Max	Unit
Propagation delay time (A → B)	t_{PLH}/t_{PHL}	11.7	10.1	9.1	7.4	6.9	6.6	6.5	ns
Propagation delay time (B → A)		13.8	11.6	9.3	7.4	6.8	5.9	5.7	
3-state output disable time (DIR → A)	t_{PLZ}/t_{PHZ}	8.5	8.4	8.4	8.4	8.4	8.3	8.2	
3-state output disable time (DIR → B)		24.2	19.7	11.6	10.1	9.6	7.8	7.9	
3-state output enable time (DIR → A)	t_{PZL}/t_{PZH} (Note 1)	38.0	31.3	20.9	17.5	16.4	13.7	13.6	
3-state output enable time (DIR → B)		20.2	18.5	17.5	15.8	15.3	14.9	14.7	

Note: See Figure 12.1, 13.1, 13.2, table 12.1.1, 12.1.2, 13.1.1 for the measurement circuit.
Note 1: Output enable time is obtained from the following formula.
Output enable time (DIR → A) = Output disable time (DIR → B) + Propagation delay time (B → A)
Output enable time (DIR → B) = Output disable time (DIR → A) + Propagation delay time (A → B)

11.9. AC Characteristics (Note) (V_{CCA} = 1.8 ± 0.15 V, T_a = -40 to 85 °C)

Characteristics	Symbol	V_{CCB} 0.9 ± 0.045 V Max	V_{CCB} 1.0 ± 0.05 V Max	V_{CCB} 1.2 ± 0.1 V Max	V_{CCB} 1.5 ± 0.1 V Max	V_{CCB} 1.8 ± 0.15 V Max	V_{CCB} 2.5 ± 0.2 V Max	V_{CCB} 3.3 ± 0.3 V Max	Unit
Propagation delay time (A → B)	t_{PLH}/t_{PHL}	10.7	9.1	8.5	6.8	6.2	5.8	5.7	ns
Propagation delay time (B → A)		13.2	11.4	8.7	6.9	6.2	5.3	4.7	
3-state output disable time (DIR → A)	t_{PLZ}/t_{PHZ}	7.3	7.3	7.3	7.3	7.3	7.3	7.2	
3-state output disable time (DIR → B)		25.2	21.6	11.0	8.9	8.6	7.0	7.0	
3-state output enable time (DIR → A)	t_{PZL}/t_{PZH} (Note 1)	38.4	33.0	19.7	15.8	14.8	12.3	11.7	
3-state output enable time (DIR → B)		18.0	16.4	15.8	14.1	13.5	13.1	12.9	

Note: See Figure 12.1, 13.1, 13.2, table 12.1.1, 12.1.2, 13.1.1 for the measurement circuit.
Note 1: Output enable time is obtained from the following formula.
Output enable time (DIR → A) = Output disable time (DIR → B) + Propagation delay time (B → A)
Output enable time (DIR → B) = Output disable time (DIR → A) + Propagation delay time (A → B)

11.10. AC Characteristics (Note) (V_{CCA} = 2.5 ± 0.2 V, T_a = -40 to 85 °C)

Characteristics	Symbol	V_{CCB} 0.9 ± 0.045 V Max	V_{CCB} 1.0 ± 0.05 V Max	V_{CCB} 1.2 ± 0.1 V Max	V_{CCB} 1.5 ± 0.1 V Max	V_{CCB} 1.8 ± 0.15 V Max	V_{CCB} 2.5 ± 0.2 V Max	V_{CCB} 3.3 ± 0.3 V Max	Unit
Propagation delay time (A → B)	t_{PLH}/t_{PHL}	10.1	8.6	7.8	5.9	5.3	4.7	4.5	ns
Propagation delay time (B → A)		13.5	10.9	8.7	6.6	5.8	4.7	4.1	
3-state output disable time (DIR → A)	t_{PLZ}/t_{PHZ}	5.6	5.6	5.6	5.6	5.6	5.6	5.6	
3-state output disable time (DIR → B)		28.5	22.9	10.9	7.6	7.1	5.9	6.1	
3-state output enable time (DIR → A)	t_{PZL}/t_{PZH} (Note 1)	42.0	33.8	19.6	14.2	12.9	10.6	10.2	
3-state output enable time (DIR → B)		15.7	14.2	13.4	11.5	10.9	10.3	10.1	

Note: See Figure 12.1, 13.1, 13.2, table 12.1.1, 12.1.2, 13.1.1 for the measurement circuit.
Note 1: Output enable time is obtained from the following formula.
Output enable time (DIR → A) = Output disable time (DIR → B) + Propagation delay time (B → A)
Output enable time (DIR → B) = Output disable time (DIR → A) + Propagation delay time (A → B)

11.11. AC Characteristics (Note) (V_{CCA} = 3.3 ± 0.3 V, T_a = -40 to 85 °C)

Characteristics	Symbol	V_{CCB} 0.9 ± 0.045 V Max	V_{CCB} 1.0 ± 0.05 V Max	V_{CCB} 1.2 ± 0.1 V Max	V_{CCB} 1.5 ± 0.1 V Max	V_{CCB} 1.8 ± 0.15 V Max	V_{CCB} 2.5 ± 0.2 V Max	V_{CCB} 3.3 ± 0.3 V Max	Unit
Propagation delay time (A → B)	t_{PLH}/t_{PHL}	10.4	8.7	7.6	5.7	4.7	4.1	3.9	ns
Propagation delay time (B → A)		16.7	11.1	8.6	6.5	5.7	4.5	3.9	
3-state output disable time (DIR → A)	t_{PLZ}/t_{PHZ}	5.7	5.7	5.7	5.7	5.7	5.7	5.7	
3-state output disable time (DIR → B)		27.6	24.6	11.5	6.7	6.3	5.4	5.6	
3-state output enable time (DIR → A)	t_{PZL}/t_{PZH} (Note 1)	44.3	35.7	20.1	13.2	12.0	9.9	9.5	
3-state output enable time (DIR → B)		16.1	14.4	13.3	11.4	10.4	9.8	9.6	

Note: See Figure 12.1, 13.1, 13.2, table 12.1.1, 12.1.2, 13.1.1 for the measurement circuit.
Note 1: Output enable time is obtained from the following formula.
Output enable time (DIR → A) = Output disable time (DIR → B) + Propagation delay time (B → A)
Output enable time (DIR → B) = Output disable time (DIR → A) + Propagation delay time (A → B)

11.12. AC Characteristics (Note) (V_{CCA} = 0.9 ± 0.045 V, T_a = -40 to 125 ℃)

Characteristics	Symbol	V_{CCB} 0.9 ± 0.045 V Max	V_{CCB} 1.0 ± 0.05 V Max	V_{CCB} 1.2 ± 0.1 V Max	V_{CCB} 1.5 ± 0.1 V Max	V_{CCB} 1.8 ± 0.15 V Max	V_{CCB} 2.5 ± 0.2 V Max	V_{CCB} 3.3 ± 0.3 V Max	Unit
Propagation delay time (A → B)	t_{PLH}/t_{PHL}	17.7	15.8	15.3	13.9	13.4	13.6	16.7	ns
Propagation delay time (B → A)		17.7	15.2	13.1	11.7	10.7	10.1	10.4	
3-state output disable time (DIR → A)	t_{PLZ}/t_{PHZ}	24.7	24.7	24.7	24.7	24.7	24.8	25.8	
3-state output disable time (DIR → B)		28.1	24.8	18.8	16.3	15.6	13.9	14.6	
3-state output enable time (DIR → A)	t_{PZL}/t_{PZH} (Note 1)	45.8	40.0	31.9	28.0	26.3	24.0	25.0	
3-state output enable time (DIR → B)		42.4	40.5	40.0	38.6	38.1	38.4	42.5	

Note: See Figure 12.1, 13.1, 13.2, table 12.1.1, 12.1.2, 13.1.1 for the measurement circuit.
Note 1: Output enable time is obtained from the following formula.
Output enable time (DIR → A) = Output disable time (DIR → B) + Propagation delay time (B → A)
Output enable time (DIR → B) = Output disable time (DIR → A) + Propagation delay time (A → B)

11.13. AC Characteristics (Note) (V_{CCA} = 1.0 ± 0.05 V, T_a = -40 to 125 ℃)

Characteristics	Symbol	V_{CCB} 0.9 ± 0.045 V Max	V_{CCB} 1.0 ± 0.05 V Max	V_{CCB} 1.2 ± 0.1 V Max	V_{CCB} 1.5 ± 0.1 V Max	V_{CCB} 1.8 ± 0.15 V Max	V_{CCB} 2.5 ± 0.2 V Max	V_{CCB} 3.3 ± 0.3 V Max	Unit
Propagation delay time (A → B)	t_{PLH}/t_{PHL}	15.2	13.7	13.1	11.9	11.7	11.2	11.3	ns
Propagation delay time (B → A)		15.8	13.7	11.4	10.4	9.3	8.8	8.9	
3-state output disable time (DIR → A)	t_{PLZ}/t_{PHZ}	19.8	19.8	19.8	19.8	19.8	20.2	19.9	
3-state output disable time (DIR → B)		25.8	23.0	16.6	14.4	13.7	12.3	12.5	
3-state output enable time (DIR → A)	t_{PZL}/t_{PZH} (Note 1)	41.6	36.7	28.0	24.8	23.0	21.1	21.4	
3-state output enable time (DIR → B)		35.0	33.5	32.9	31.7	31.5	31.4	31.2	

Note: See Figure 12.1, 13.1, 13.2, table 12.1.1, 12.1.2, 13.1.1 for the measurement circuit.
Note 1: Output enable time is obtained from the following formula.
Output enable time (DIR → A) = Output disable time (DIR → B) + Propagation delay time (B → A)
Output enable time (DIR → B) = Output disable time (DIR → A) + Propagation delay time (A → B)

11.14. AC Characteristics (Note) (V_{CCA} = 1.2 ± 0.1 V, T_a = -40 to 125 ℃)

Characteristics	Symbol	V_{CCB} 0.9 ± 0.045 V Max	V_{CCB} 1.0 ± 0.05 V Max	V_{CCB} 1.2 ± 0.1 V Max	V_{CCB} 1.5 ± 0.1 V Max	V_{CCB} 1.8 ± 0.15 V Max	V_{CCB} 2.5 ± 0.2 V Max	V_{CCB} 3.3 ± 0.3 V Max	Unit
Propagation delay time (A → B)	t_{PLH}/t_{PHL}	13.1	11.4	11.1	9.7	9.1	9.1	9.0	ns
Propagation delay time (B → A)		15.3	13.1	11.1	9.6	8.9	8.2	8.0	
3-state output disable time (DIR → A)	t_{PLZ}/t_{PHZ}	12.6	12.6	12.6	12.6	12.6	12.6	12.6	
3-state output disable time (DIR → B)		24.3	20.9	15.9	12.5	11.8	10.1	10.2	
3-state output enable time (DIR → A)	t_{PZL}/t_{PZH} (Note 1)	39.6	34.0	27.0	22.1	20.7	18.3	18.2	
3-state output enable time (DIR → B)		25.7	24.0	23.7	22.3	21.7	21.7	21.6	

Note: See Figure 12.1, 13.1, 13.2, table 12.1.1, 12.1.2, 13.1.1 for the measurement circuit.
Note 1: Output enable time is obtained from the following formula.
Output enable time (DIR → A) = Output disable time (DIR → B) + Propagation delay time (B → A)
Output enable time (DIR → B) = Output disable time (DIR → A) + Propagation delay time (A → B)

11.15. AC Characteristics (Note) (V_{CCA} = 1.5 ± 0.1 V, T_a = -40 to 125 °C)

Characteristics	Symbol	V_{CCB} 0.9 ± 0.045 V Max	V_{CCB} 1.0 ± 0.05 V Max	V_{CCB} 1.2 ± 0.1 V Max	V_{CCB} 1.5 ± 0.1 V Max	V_{CCB} 1.8 ± 0.15 V Max	V_{CCB} 2.5 ± 0.2 V Max	V_{CCB} 3.3 ± 0.3 V Max	Unit
Propagation delay time (A → B)	t_{PLH}/t_{PHL}	11.7	10.4	9.6	7.8	7.3	7.0	6.9	ns
Propagation delay time (B → A)		13.9	11.9	9.7	7.8	7.2	6.3	6.0	
3-state output disable time (DIR → A)	t_{PLZ}/t_{PHZ}	8.8	8.8	8.8	8.8	8.8	8.7	8.7	
3-state output disable time (DIR → B)		24.8	19.9	12.0	10.6	10.1	8.3	8.3	
3-state output enable time (DIR → A)	t_{PZL}/t_{PZH} (Note 1)	38.7	31.8	21.7	18.4	17.3	14.6	14.3	
3-state output enable time (DIR → B)		20.5	19.2	18.4	16.6	16.1	15.7	15.6	

Note: See Figure 12.1, 13.1, 13.2, table 12.1.1, 12.1.2, 13.1.1 for the measurement circuit.
Note 1: Output enable time is obtained from the following formula.
Output enable time (DIR → A) = Output disable time (DIR → B) + Propagation delay time (B → A)
Output enable time (DIR → B) = Output disable time (DIR → A) + Propagation delay time (A → B)

11.16. AC Characteristics (Note) (V_{CCA} = 1.8 ± 0.15 V, T_a = -40 to 125 °C)

Characteristics	Symbol	V_{CCB} 0.9 ± 0.045 V Max	V_{CCB} 1.0 ± 0.05 V Max	V_{CCB} 1.2 ± 0.1 V Max	V_{CCB} 1.5 ± 0.1 V Max	V_{CCB} 1.8 ± 0.15 V Max	V_{CCB} 2.5 ± 0.2 V Max	V_{CCB} 3.3 ± 0.3 V Max	Unit
Propagation delay time (A → B)	t_{PLH}/t_{PHL}	10.7	9.3	8.9	7.2	6.5	6.1	6.0	ns
Propagation delay time (B → A)		7.7	11.7	9.1	7.3	6.5	5.7	5.0	
3-state output disable time (DIR → A)	t_{PLZ}/t_{PHZ}	7.7	7.7	7.7	7.7	7.6	7.6	7.5	
3-state output disable time (DIR → B)		25.8	21.8	11.4	9.4	9.1	7.5	7.4	
3-state output enable time (DIR → A)	t_{PZL}/t_{PZH} (Note 1)	39.2	33.5	20.5	16.7	15.6	13.2	12.4	
3-state output enable time (DIR → B)		18.4	17.0	16.6	14.9	14.1	13.7	13.5	

Note: See Figure 12.1, 13.1, 13.2, table 12.1.1, 12.1.2, 13.1.1 for the measurement circuit.
Note 1: Output enable time is obtained from the following formula.
Output enable time (DIR → A) = Output disable time (DIR → B) + Propagation delay time (B → A)
Output enable time (DIR → B) = Output disable time (DIR → A) + Propagation delay time (A → B)

11.17. AC Characteristics (Note) (V_{CCA} = 2.5 ± 0.2 V, T_a = -40 to 125 °C)

Characteristics	Symbol	V_{CCB} 0.9 ± 0.045 V Max	V_{CCB} 1.0 ± 0.05 V Max	V_{CCB} 1.2 ± 0.1 V Max	V_{CCB} 1.5 ± 0.1 V Max	V_{CCB} 1.8 ± 0.15 V Max	V_{CCB} 2.5 ± 0.2 V Max	V_{CCB} 3.3 ± 0.3 V Max	Unit
Propagation delay time (A → B)	t_{PLH}/t_{PHL}	10.1	8.8	8.2	6.3	5.7	5.0	4.7	ns
Propagation delay time (B → A)		13.6	11.2	9.1	7.0	6.1	5.0	4.4	
3-state output disable time (DIR → A)	t_{PLZ}/t_{PHZ}	5.8	5.8	5.8	5.8	5.8	5.8	5.8	
3-state output disable time (DIR → B)		29.1	23.1	11.3	8.0	7.5	6.4	6.5	
3-state output enable time (DIR → A)	t_{PZL}/t_{PZH} (Note 1)	42.7	34.3	20.4	15.0	13.6	11.4	10.9	
3-state output enable time (DIR → B)		15.9	14.6	14.0	12.1	11.5	10.8	10.5	

Note: See Figure 12.1, 13.1, 13.2, table 12.1.1, 12.1.2, 13.1.1 for the measurement circuit.
Note 1: Output enable time is obtained from the following formula.
Output enable time (DIR → A) = Output disable time (DIR → B) + Propagation delay time (B → A)
Output enable time (DIR → B) = Output disable time (DIR → A) + Propagation delay time (A → B)

11.18. AC Characteristics (Note) (V_{CCA} = 3.3 ± 0.3 V, T_a = -40 to 125 °C)

Characteristics	Symbol	V_{CCB} 0.9 ± 0.045 V Max	V_{CCB} 1.0 ± 0.05 V Max	V_{CCB} 1.2 ± 0.1 V Max	V_{CCB} 1.5 ± 0.1 V Max	V_{CCB} 1.8 ± 0.15 V Max	V_{CCB} 2.5 ± 0.2 V Max	V_{CCB} 3.3 ± 0.3 V Max	Unit
Propagation delay time (A → B)	t_{PLH}/t_{PHL}	10.4	8.9	8.0	6.0	5.0	4.4	4.1	ns
Propagation delay time (B → A)		16.7	11.3	9.0	6.9	6.0	4.7	4.1	
3-state output disable time (DIR → A)	t_{PLZ}/t_{PHZ}	6.0	6.0	6.0	6.0	6.0	6.0	5.9	
3-state output disable time (DIR → B)		27.6	24.7	11.8	7.3	6.8	5.7	6.0	
3-state output enable time (DIR → A)	t_{PZL}/t_{PZH} (Note 1)	44.3	36.0	20.8	14.2	12.8	10.4	10.1	
3-state output enable time (DIR → B)		16.4	14.9	14.0	12.0	11.0	10.4	10.0	

Note: See Figure 12.1, 13.1, 13.2, table 12.1.1, 12.1.2, 13.1.1 for the measurement circuit.

Note 1: Output enable time is obtained from the following formula.
Output enable time (DIR → A) = Output disable time (DIR → B) + Propagation delay time (B → A)
Output enable time (DIR → B) = Output disable time (DIR → A) + Propagation delay time (A → B)

11.19. Capacitive Characteristics (Unless otherwise specified, T_a = 25 °C)

Characteristics	Symbol	Note	Test Condition	V_{CCA}, V_{CCB} 0.8 V Typ.	V_{CCA}, V_{CCB} 0.9 V Typ.	V_{CCA}, V_{CCB} 1.0 V Typ.	V_{CCA}, V_{CCB} 1.2 V Typ.	V_{CCA}, V_{CCB} 1.5 V Typ.	V_{CCA}, V_{CCB} 1.8 V Typ.	V_{CCA}, V_{CCB} 2.5 V Typ.	V_{CCA}, V_{CCB} 3.3 V Typ.	Unit
Input capacitance	C_{IN}		V_{IN} = 0 V or 3.3 V	—	—	—	—	—	—	—	4	pF
Bus I/O capacitance	$C_{I/OA}$		A = OFF, V_{IOA} = 0 V or 3.3 V	—	—	—	—	—	—	—	5	pF
	$C_{I/OB}$		B = OFF, V_{IOB} = 0 V or 3.3 V	—	—	—	—	—	—	—	5	
Power dissipation capacitance	C_{PDA}	(Note 1)	A → B	1.5	1.5	1.5	1.5	2	2	2	2.5	pF
			B → A	13	13	13	13.5	13.5	14	14.5	15	
	C_{PDB}	(Note 1)	A → B	13	13	13	13.5	13.5	14	14.5	15	
			B → A	1.5	1.5	1.5	1.5	2	2	2	2.5	

Note 1: C_{PD} is defined as the value of the internal equivalent capacitance which is calculated from the operating current consumption without load. Average operating current can be obtained by the equation.
$I_{CC(opr)} = C_{PD} \times V_{CC} \times f_{IN} + I_{CC} / 2$ (per bit)

12. AC Test Circuit

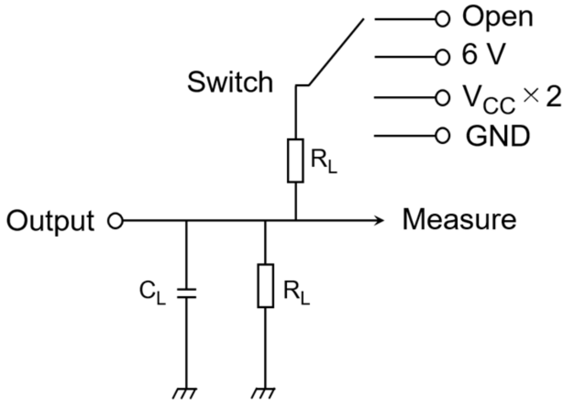


Fig. 12.1 AC Test Circuit

Table 12.1.1 Parameter for AC Test Circuit

Parameter	Switch
t_{PLH}, t_{PHL}	Open
t_{PLZ}, t_{PZL}	V_{CC} × 2
t_{PHZ}, t_{PZH}	GND

Table 12.1.2 Parameter for AC Test Circui

Symbol	V_{CC} = 0.8 V	V_{CC} = 0.9 ± 0.045 V V_{CC} = 1.0 ± 0.05 V	V_{CC} = 1.2 ± 0.1 V V_{CC} = 1.5 ± 0.1 V	V_{CC} = 1.8 ± 0.15 V V_{CC} = 2.5 ± 0.2 V	V_{CC} = 3.3 ± 0.3 V
R_L	10 kΩ	10 kΩ	2 kΩ	2 kΩ	2 kΩ
C_L	5 pF	5 pF	15 pF	15 pF	15 pF

13. AC Waveform

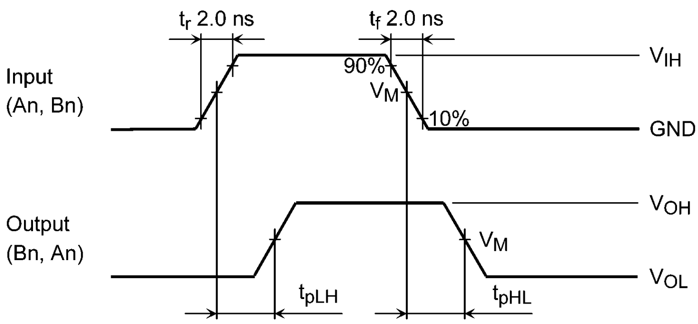


Fig. 13.1 t_{pLH}, t_{pHL}

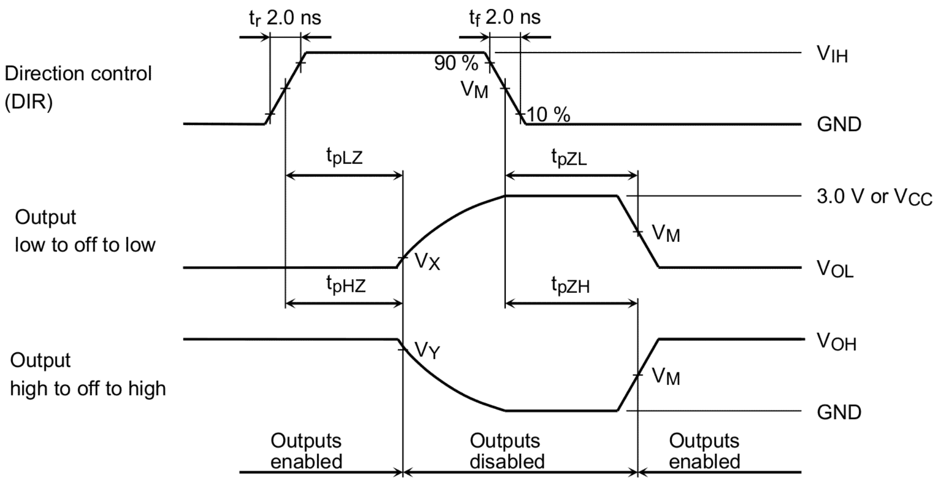


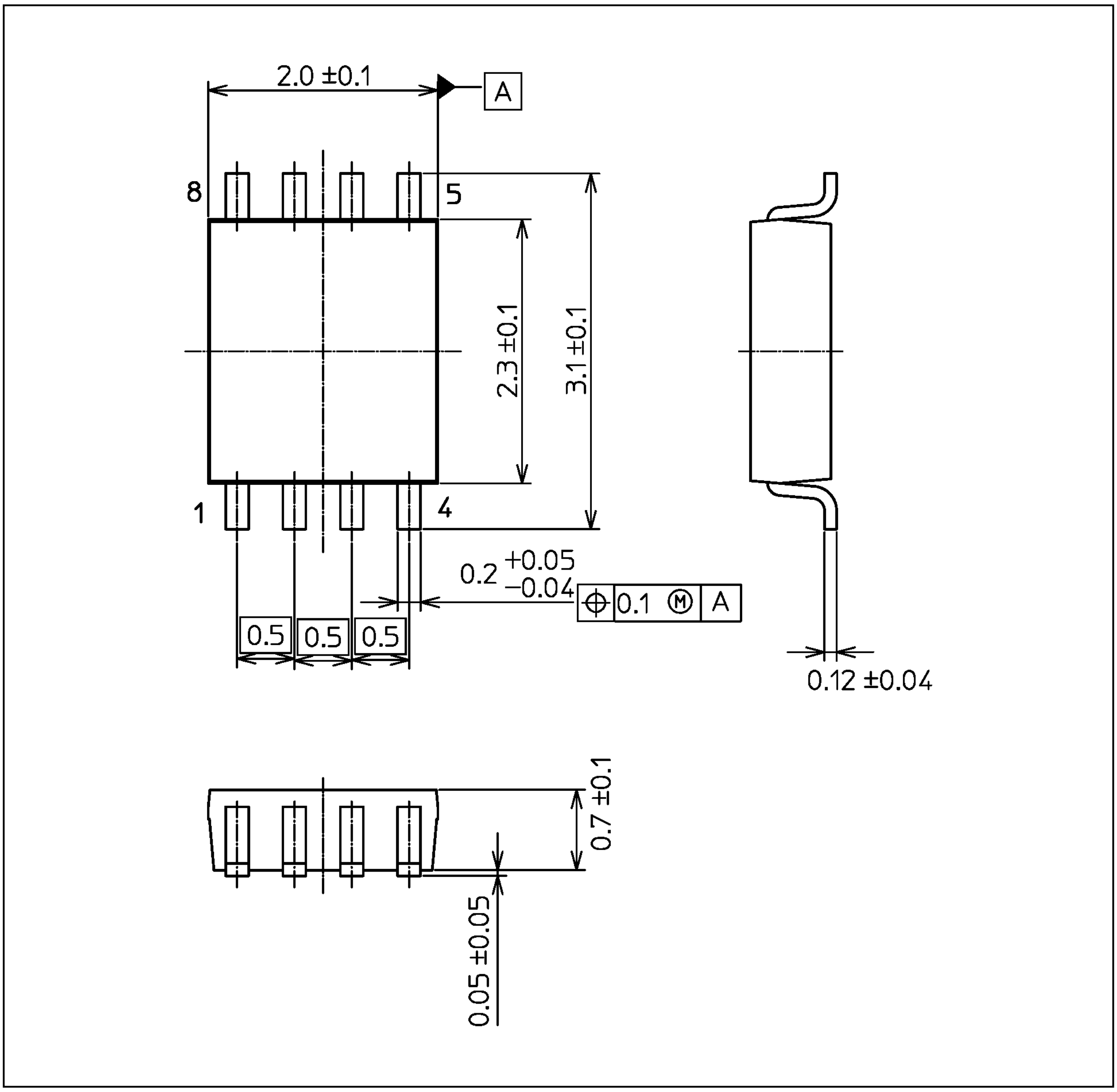
Fig. 13.2 t_{pLZ}, t_{pHZ}, t_{pZL}, t_{pZH}

Table 13.1.1 AC Waveform Symbols

Symbol	V_{CC} = 0.8 V	V_{CC} = 1.0 ± 0.05 V V_{CC} = 0.9 ± 0.045 V	V_{CC} = 1.5 ± 0.1 V V_{CC} = 1.2 ± 0.1 V	V_{CC} = 2.5 ± 0.2 V V_{CC} = 1.8 ± 0.15 V	V_{CC} = 3.3 ± 0.3 V
V_{IH}	V_{CC}	V_{CC}	V_{CC}	V_{CC}	V_{CC}
V_M	V_{CC} / 2	V_{CC} / 2	V_{CC} / 2	V_{CC} / 2	V_{CC} / 2
V_X	V_{OL} + 0.1 V	V_{OL} + 0.1 V	V_{OL} + 0.1 V	V_{OL} + 0.15 V	V_{OL} + 0.3 V
V_Y	V_{OH} - 0.1 V	V_{OH} - 0.1 V	V_{OH} - 0.1 V	V_{OH} - 0.15 V	V_{OH} - 0.3 V

Package Dimensions

Unit: mm



Weight: 0.01 g (typ.)

Package Name(s)
JEDEC: SOT-765
Nickname: US8

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