

Description

The 74AVC4T245 device is 4-bit, dual supply transceiver that enables bi-directional level translation, designed for asynchronous communication between two data buses. It features four 2-bit input-output ports (nAn and nBn), a direction control input (nDIR), an output enable input (nOE) and dual supply pins (VCC(A) and VCC(B)). Both VCC(A) and VCC(B) can be supplied at any voltage between 0.8V and 3.6V, making the device suitable for translating between any of the low voltage nodes (0.8V, 1.2V, 1.5V, 1.8V, 2.5V and 3.3V). Pins nAn, nOE and nDIR are referenced to VCC(A) and pins nBn are referenced to VCC(B). A HIGH on nDIR allows transmission from nAn to nBn and a LOW on nDIR allows transmission from nBn to nAn. The output enable input (nOE) can be used to disable the outputs so the buses are effectively isolated. The device is fully specified for partial power-down applications using IOFF. The IOFF circuitry disables the output, preventing any damaging backflow current through the device when it is powered down. In suspend mode when either VCC(A) or VCC(B) are at GND level, both nAn and nBn are in the high-impedance OFF-state.

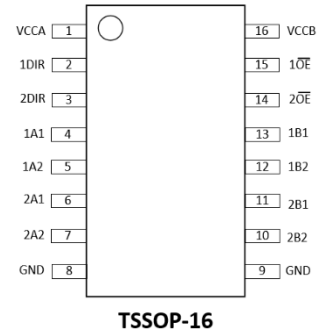
The 74AVC4T245 is available in the TSSOP-16 package, and is specified for operation from -40°C to +125°C among all supply voltages. The wide temperature ranges and high ESD tolerance facilitate their use in harsh applications.

Features

- Supply Voltage Range: VCC(A)/VCC(B): from 0.8V to 3.6V
- Max Data Rates:
 - 380Mbps (1.8V to 3.3V Translation)
 - 200Mbps (<1.8V to 3.3V Translation)
 - 200Mbps (Translate to 2.5V or 1.8V)
 - 150Mbps (Translate to 1.5V)
 - 100Mbps (Translate to 1.2V)
 - 50Mbps (Translate to 0.8V~1.1V)
- High Drive Strength ($\pm 12\text{mA}$ at 3.3V)
- IOFF Supports Partial-Power-Down Mode Operation
- ESD Protection Exceeds JESD 22
 - Exceeds 8000V Human Body Model (A114)
 - Exceeds 1000V Charged Device Model (C101)
- Latch-Up Exceeds 100mA per JESD 78, Class II
- **Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**
- **For automotive applications requiring specific change control (i.e. parts qualified to AEC-Q100/101/104/200, PPAP capable, and manufactured in IATF 16949 certified facilities), please [contact us](https://www.diodes.com/quality/product-definitions/) or your local Diodes representative.**
<https://www.diodes.com/quality/product-definitions/>

Notes: 1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant.
 2. See <https://www.diodes.com/quality/lead-free/> for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
 3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

Pin Assignments



Applications

- Personal electronics
- Industrial
- Enterprise
- Telecom

Pin Descriptions

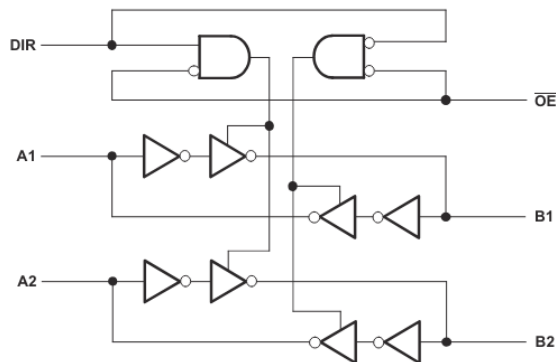
Pin Name	Pin Number	Function
VCCA	1	A port supply Voltage
1DIR	2	Direction Control Pin for Port "1".
2DIR	3	Direction Control Pin for Port "2".
1A1	4	Input/Output 1A1. Referenced to VCCA.
1A2	5	Input/Output 1A2. Referenced to VCCA.
2A1	6	Input/Output 2A1. Referenced to VCCA.
2A2	7	Input/Output 2A2. Referenced to VCCA.
GND	8	Ground
GND	9	Ground
2B2	10	Input/Output 2B2. Referenced to VCCB.
2B1	11	Input/Output 2B1. Referenced to VCCB.
1B2	12	Input/Output 1B2. Referenced to VCCB.
1B1	13	Input/Output 1B1. Referenced to VCCB.
2OE	14	3-state output-mode enable. Pull to High to place port "2" outputs in high-impedance mode. Referenced to VCCA.
1OE	15	3-state output-mode enable. Pull to High to place port "1" outputs in high-impedance mode. Referenced to VCCA.
VCCB	16	B port supply Voltage

Function Table (Note 4)

Control Functional		Output Status		Operation
OE	DIR	A Port	B port	
L	L	Enabled	Hi-Z	B to A
L	H	Hi-Z	Enabled	A to B
H	X	Hi-Z	Hi-Z	Isolation

Note: 4. Floating input pin is allowed for this case.

Logic Diagram



Absolute Maximum Ratings (Note 5) (@T_A = +25°C, unless otherwise specified.)

Symbol	Parameter	Rating	Unit
ESD HBM	Human Body Model ESD Protection	7.5	kV
ESD CDM	Charged Device Model ESD Protection	1.5	kV
V _{CCA} , V _{CCB}	Supply Voltage Range	-0.5 to +4.6	V
V _I	Input Voltage Range	-0.5 to +4.6	V
V _O	Voltage Applied to Output in High Impedance or I _{OFF} State	-0.5 to +4.6	V
V _O	Voltage Applied to Output in High or Low State	-0.5 to V _{CCO} +0.5	V
I _{IK}	Input Clamp Current V _I < 0	-50	mA
I _{OK}	Output Clamp Current	-50	mA
I _O	Continuous Output Current	±50	mA
—	Continuous Current Through V _{CCA} or GND	±100	mA
T _J	Operating Junction Temperature	+150	°C
T _{STG}	Storage Temperature	-65 to +150	°C

Note: 5. Stresses greater than those listed under *Absolute Maximum Ratings* can 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 Ratings* for extended periods can affect device reliability.

Recommended Operating Condition (@T_A = +25°C, unless otherwise specified.)

Symbol	Parameter	V _{CCO}	Min	Max	Units
V _{CCA}	Operating Voltage	—	0.8	3.6	V
V _{CCB}	Operating Voltage	—	0.8	3.6	V
I _{OH}	High-Level Output Current Data Input, nDIR, nOE Input	1.1V	—	-3	mA
		1.4V to 1.6V	—	-6	
		1.65V to 1.95V	—	-8	
		2.3V to 2.7V	—	-9	
		3V to 3.6V	—	-12	
I _{OL}	Low-Level Output Current Data Input, nDIR, nOE Input	1.1V	—	3	mA
		1.4V to 1.6V	—	6	
		1.65V to 1.95V	—	8	
		2.3V to 2.7V	—	9	
		3V to 3.6V	—	12	
V _I	Input Voltage		0	3.6	V
V _O	Output Voltage	Active State	0	V _{CCO}	V
		Tri-State	0	3.6	V
T _A	Operating Free-Air Temperature		-40	+125	°C

Electrical Characteristics (Notes 6, 7, 8, 9 & 10) (@T_A = +40°C to +125°C, unless otherwise specified.)

Symbol	Parameter	Test Condition	V _{CCI}	V _{CCO}	T _A = +25°C			T _A = -40°C to +85°C		T _A = -40°C to +125°C		Unit
					Min	Typ	Max	Min	Max	Min	Max	
V _{IH}	High-Level Input Voltage	Data Input, nDIR, nOE Input	0.8V	—	0.70V _{CCI}	—	—	0.70V _{CCI}	—	0.70V _{CCI}	—	V
			1.1V to 1.95V	—	0.65V _{CCI}	—	—	0.65V _{CCI}	—	0.65V _{CCI}	—	
			1.95V to 2.7V	—	1.6	—	—	1.6	—	1.6	—	
			2.7V to 3.6V	—	2	—	—	2	—	2	—	
V _{IL}	Low-Level Input Voltage	Data Input, nDIR, nOE Input	0.8V	—	—	—	0.3V _{CCI}	—	0.3V _{CCI}	—	0.3V _{CCI}	V
			1.1V to 1.95V	—	—	—	0.35V _{CCI}	—	0.35V _{CCI}	—	0.35V _{CCI}	
			1.95V to 2.7V	—	—	—	0.7	—	0.7	—	0.7	
			2.7V to 3.6V	—	—	—	0.8	—	0.8	—	0.8	
V _{OH}	High-Level Output Voltage	I _{OH} = -0.1mA	0.8V-3.6V	0.8V-3.6V	—	—	—	V _{CCO} - 0.1	—	V _{CCO} - 0.1	—	V
		I _{OH} = -3mA	1.1V	1.1V	0.95	—	—	0.85	—	0.85	—	
		I _{OH} = -6mA	1.4V	1.4V	1.05	—	—	1.05	—	1.05	—	
		I _{OH} = -8mA	1.65V	1.65V	1.2	—	—	1.2	—	1.2	—	
		I _{OH} = -9mA	2.3V	2.3V	1.75	—	—	1.75	—	1.75	—	
		I _{OH} = -12mA	3V	3V	2.3	—	—	2.3	—	2.3	—	
V _{OL}	Low-Level Output Voltage	I _{OL} = 0.1mA	0.8V-3.6V	0.8V-3.6V	0.1	—	—	—	0.1	—	0.1	V
		I _{OL} = 3mA	1.1V	1.1V	0.25	—	—	—	0.25	—	0.27	
		I _{OL} = 6mA	1.4V	1.4V	0.35	—	—	—	0.35	—	0.35	
		I _{OL} = 8mA	1.65V	1.65V	0.45	—	—	—	0.45	—	0.45	
		I _{OL} = 9mA	2.3V	2.3V	0.55	—	—	—	0.55	—	0.55	
		I _{OL} = 12mA	3V	3V	0.7	—	—	—	0.7	—	0.7	

- Notes:
6. V_{CCI} is the V_{CC} associated with the input port.
 7. V_{CCO} is the V_{CC} associated with the output port.
 8. All unused data inputs of the device must be held at V_{CCI} or GND to ensure proper device operation.
 9. For V_{CCI} values not specified in the data sheet, V_{IH} min = V_{CCI} × 0.7V, V_{IL} max = V_{CCI} × 0.3V.
 10. For OE and DIR V_{CCI} values not specified in the data sheet, V_{IH} min = V_{CCA} × 0.7V, V_{IL} max = V_{CCA} × 0.3V.

Electrical Characteristics (Notes 6, 7, 8, 9 & 10) (@T_A = +40°C to +125°C, unless otherwise specified.) (continued)

Symbol	Parameter	Test Condition		V _{CCI}	V _{CCO}	T _A = +25°C			T _A = -40°C to +85°C		T _A = -40°C to +125°C		Unit
						Min	Typ	Max	Min	Max	Min	Max	
I _I	Input Current	V _I = V _{CCA} or GND		0.8V-3.6V	0.8V-3.6V	—	—	±0.25	—	±1	—	±1	μA
I _{OFF}	Off-State Current	A or B Port	V _I or V _O = 0 to 3.6V	0	0.8V-3.6V	—	—	±1	—	±3	—	±10	μA
				0.8V-3.6V	0	—	—	±1	—	±3	—	±10	
I _{OZ}	High-Z State Current	A or B Port	V _I or V _O = 0 to 3.6V	3.6V	3.6V	—	—	±1	—	±2	—	±5	μA
		A Port		3.6V	0	—	—	±1	—	±2	—	±5	
		B Port		0	3.6V	—	—	±1	—	±2	—	±5	
I _{CCA}	Supply Current	V _I = V _{CCI} or GND IO = 0		0.8V-3.6V	0.8V-3.6V	—	—	±1	—	±10	—	±35	μA
				0.8V-1.1V	0.8V-1.1V	—	—	±1	—	±8	—	±25	
				0-3.6V	0	—	—	±1	—	±10	—	±35	
				0	0-3.6V	—	—	±1	—	±1	—	±1	
I _{CCB}	Supply Current	V _I = V _{CCI} or GND IO = 0		0.8V-3.6V	0.8V-3.6V	—	—	±1	—	±10	—	±35	μA
				0.8V-1.1V	0.8V-1.1V	—	—	±1	—	±8	—	±25	
				0-3.6V	0	—	—	±1	—	±1	—	±1	
				0	0-3.6V	—	—	±1	—	±10	—	±35	
I _{CCA} + I _{CCB}	Supply Current	V _I = V _{CCI} or GND IO = 0		0.8V-3.6V	0.8V-3.6V	—	—	±2	—	±20	—	±70	μA
C _I	Control Input Capacitance	nDIR, nOE Input	V _I = 3.3V or GND	3.3V	—	3.5	—	—	4.5	—	—	4.5	pF
C _O	Input/Output Capacitance	A or B	V _O = 3.3V or GND	3.3V	—	6	—	—	7	—	—	7	pF

- Notes:
6. V_{CCI} is the V_{CC} associated with the input port.
 7. V_{CCO} is the V_{CC} associated with the output port.
 8. All unused data inputs of the device must be held at V_{CCI} or GND to ensure proper device operation.
 9. For V_{CCI} values not specified in the data sheet, V_{IH} min = V_{CCI} × 0.7V, V_{IL} max = V_{CCI} × 0.3V.
 10. For OE and DIR V_{CCI} values not specified in the data sheet, V_{IH} min = V_{CCA} × 0.7V, V_{IL} max = V_{CCA} × 0.3V.

Package Characteristics

Symbol	Parameter	Package	Test Condition	Min	Typ	Max	Unit
θ _{JA}	Thermal Resistance Junction-to-Ambient	TSSOP-16	(Note 11)	—	100	—	°C/W
θ _{JC}	Thermal Resistance Junction-to-Case	TSSOP-16	(Note 11)	—	43	—	°C/W

Note: 11. Test condition for the package type: device mounted on FR-4 substrate PC board, 2oz copper, with minimum recommended pad layout.

Switching Characteristics (@T_A = -40°C to +125°C, unless otherwise specified.)

VCCA = 0.8V

Parameter	Test Condition	Direction	VCCB						Unit
			0.8V	1.2V ± 0.1V	1.5V ± 0.1V	1.8V ± 0.15V	2.5V ± 0.2V	3.3V ± 0.3V	
			Typ	Typ	Typ	Typ	Typ	Typ	
tpd	Propagation Delay	nAn to nBn	11.0	7.3	6.5	6.2	6.5	7.0	ns
		nBn to nAn	11.0	10.0	12.4	12.3	12.1	12.0	
ten	Enable Time	$\overline{\text{nOE}}$ to nAn	18.2	18.2	18.2	18.2	18.2	18.2	
		$\overline{\text{nOE}}$ to nBn	19.2	12.7	11.4	10.9	10.7	11.1	
tdis	Disable Time	$\overline{\text{nOE}}$ to nAn	14.3	14.3	14.3	14.3	14.3	14.3	
		$\overline{\text{nOE}}$ to nBn	12.6	9.9	9.0	9.4	9.0	9.7	

VCCB = 0.8V

Parameter	Test Condition	Direction	VCCA						Unit
			0.8V	1.2V ± 0.1V	1.5V ± 0.1V	1.8V ± 0.15V	2.5V ± 0.2V	3.3V ± 0.3V	
			Typ	Typ	Typ	Typ	Typ	Typ	
tpd	Propagation Delay	nAn to nBn	14.5	12.7	12.4	12.3	12.1	12.0	ns
		nBn to nAn	14.5	7.3	6.5	6.2	5.9	6.0	
ten	Enable Time	$\overline{\text{nOE}}$ to nAn	18.2	13.0	12.1	9.6	7.3	6.4	
		$\overline{\text{nOE}}$ to nBn	19.2	15.8	15.3	15.0	15.0	14.8	
tdis	Disable Time	$\overline{\text{nOE}}$ to nAn	14.3	9.6	8.5	7.5	7.7	8.6	
		$\overline{\text{nOE}}$ to nBn	17.0	13.8	13.4	13.1	12.9	12.7	

Switching Characteristics (@T_A = -40°C to +125°C, unless otherwise specified.) (continued)

V_{CCA} = 1.2V ± 0.1V

Parameter	Test Conditions	Direction	V _{CCB}															Unit
			1.2V ± 0.1V			1.5V ± 0.1V			1.8V ± 0.15V			2.5V ± 0.2V			3.3V ± 0.3V			
			Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	
tpd	Propagation Delay	nAn to nBn	0.5	3	8.3	0.5	2.9	6.3	0.5	2.1	5.5	0.5	2.1	4.6	0.5	2.3	4.6	ns
		nBn to nAn	0.5	3	8.3	0.5	3.1	7.8	0.5	2.8	7.7	0.5	2.1	7.4	0.5	2.2	7.3	
ten	Enable Time	n $\overline{\text{OE}}$ to nAn	1.8	3.9	11.7	1.8	4.2	11.7	1.8	4.3	11.7	1.8	3.5	11.7	1.8	3.5	11.7	
		n $\overline{\text{OE}}$ to nBn	1.9	4	13.0	1.9	2.5	9.5	1.9	3.3	8.2	1.4	3.6	7.9	1.2	4.5	7.7	
tdis	Disable Time	n $\overline{\text{OE}}$ to nAn	1.4	3.2	11.5	1.4	2.3	11.5	1.4	3	11.5	1.4	3	11.5	1.4	3.1	11.5	
		n $\overline{\text{OE}}$ to nBn	1.1	3	10.0	1.1	2.2	8.1	1.1	2.9	7.5	1.0	2.5	6.3	1.0	5.5	6.3	

V_{CCA} = 1.5V ± 0.1V

Parameter	Test Conditions	Direction	V _{CCB}										Unit
			1.2V ± 0.1 V		1.5V ± 0.1V		1.8V ± 0.15V		2.5V ± 0.2V		3.3V ± 0.3V		
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	
tpd	Propagation Delay	nAn to nBn	0.3	7.8	0.3	6.3	0.3	5.2	0.4	4.2	0.4	4.2	ns
		nBn to nAn	0.7	6.3	0.7	6.3	0.5	5.9	0.4	5.7	0.3	5.6	
ten	Enable Time	nOE to nAn	1.8	10.5	1.4	9.6	1.1	9.5	0.7	9.7	0.4	9.4	
		nOE to nBn	1.9	11.0	1.4	9.6	1.1	7.7	0.9	7.1	0.9	6.9	
tdis	Disable Time	nOE to nAn	1.1	10.2	1.8	10.2	1.5	10.2	1.3	10.2	1.6	10.2	
		nOE to nBn	1.4	10.4	1.9	10.3	1.9	9.1	1.4	7.4	1.2	7.6	

V_{CCA} = 1.8V ± 0.15V

Parameter	Test Conditions	Direction	V _{CCB}										Unit
			1.2V ± 0.1V		1.5V ± 0.1V		1.8V ± 0.15V		2.5V ± 0.2V		3.3V ± 0.3 V		
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	
tpd	Propagation Delay	nAn to nBn	0.1	7.7	0.1	5.9	0.1	4.9	0.1	3.9	0.3	3.9	ns
		nBn to nAn	0.6	5.5	0.6	5.3	0.5	4.9	0.3	4.6	0.3	4.5	
ten	Enable Time	n $\overline{\text{OE}}$ to nAn	1.8	9.0	1	8.6	1	7.3	0.6	7.3	0.4	7.2	
		n $\overline{\text{OE}}$ to nBn	1.7	10.5	1.2	9.2	1	7.4	0.8	6.7	0.8	6.5	
tdis	Disable Time	n $\overline{\text{OE}}$ to nAn	1.0	8.9	1.6	8.6	1.8	8.7	1.3	8.7	1.6	8.7	
		n $\overline{\text{OE}}$ to nBn	1.2	10.0	1.7	9.9	1.6	8.7	1.2	7.4	1	6.9	

Switching Characteristics (@T_A = -40°C to +125°C, unless otherwise specified.) (continued)

V_{CCA} = 2.5V ± 0.2V

Parameter	Test Conditions	Direction	V _{CCB}										Unit
			1.2V ± 0.1V		1.5V ± 0.1V		1.8V ± 0.15V		2.5V ± 0.2V		3.3V ± 0.3V		
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	
tpd	Propagation Delay	nAn to nBn	0.1	7.4	0.1	5.7	0.1	4.6	0.2	3.9	0.1	3.6	ns
		nBn to nAn	0.6	4.6	0.6	4.2	0.4	4.1	0.2	3.9	0.2	3.3	
ten	Enable Time	$\overline{\text{nOE}}$ to nAn	1.0	8.0	0.7	6.7	0.7	6.5	0.6	5.9	0.4	4.8	
		$\overline{\text{nOE}}$ to nBn	1.5	9.8	0.9	8.8	0.8	7.0	0.6	5.8	0.6	4	
tdis	Disable Time	$\overline{\text{nOE}}$ to nAn	0.7	9.0	1	8.4	1	8.4	1	6.2	1	6.6	
		$\overline{\text{nOE}}$ to nBn	0.9	9.9	1.5	9.4	1.3	8.2	1.1	6.2	0.9	5.2	

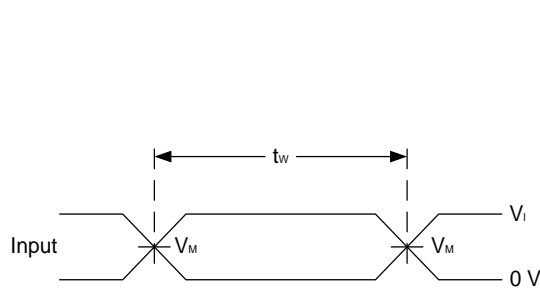
V_{CCA} = 3.3V ± 0.3V

Parameter	Test Conditions	Direction	V _{CCB}										Unit
			1.2V ± 0.1V		1.5V ± 0.1V		1.8V ± 0.15V		2.5V ± 0.2V		3.3V ± 0.3V		
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	
tpd	Propagation Delay	nAn to nBn	0.1	7.3	0.1	5.6	0.1	4.5	0.1	3.7	0.1	2.9	ns
		nBn to nAn	0.6	4.6	0.6	4.2	0.4	3.9	0.2	3.7	0.1	2.8	
ten	Enable Time	nOE to nAn	0.7	9.2	0.6	8.7	0.6	5.9	0.6	5.6	0.4	3.8	
		nOE to nBn	1.4	9.5	0.8	8.7	0.6	6.8	0.5	5.7	0.5	3.8	
tdis	Disable Time	nOE to nAn	0.6	9.5	0.7	9.3	0.7	8.3	0.7	5.6	0.7	6.6	
		nOE to nBn	0.8	9.5	1.4	9.3	1.2	8.1	1	6.4	0.8	6.2	

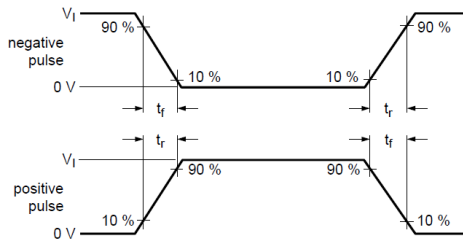
Operating Characteristics (@T_A = +25°C, unless otherwise specified.)

Parameter	Test Condition			0.8V	1.2V	1.5V	1.8V	2.5V	3.3V	Unit
CpdA	A to B	Enabled	CL = 0, RL = Open, f = 10MHz, tr = tf = 1ns, VCCA = VCCB	0.2	0.2	0.2	0.2	0.3	0.4	pF
		Disabled		0.2	0.2	0.2	0.2	0.3	0.4	
	B to A	Enabled		9.5	9.7	9.8	9.9	10.7	11.9	
		Disabled		0.6	0.6	0.6	0.6	0.7	0.7	
CpdB	A to B	Enabled	CL = 0, RL = Open, f = 10MHz, tr = tf = 1ns, VCCA = VCCB	9.5	9.7	9.8	9.9	10.7	11.9	
		Disabled		0.6	0.6	0.6	0.6	0.7	0.7	
	B to A	Enabled		0.2	0.2	0.2	0.2	0.3	0.4	
		Disabled		0.2	0.2	0.2	0.2	0.3	0.4	

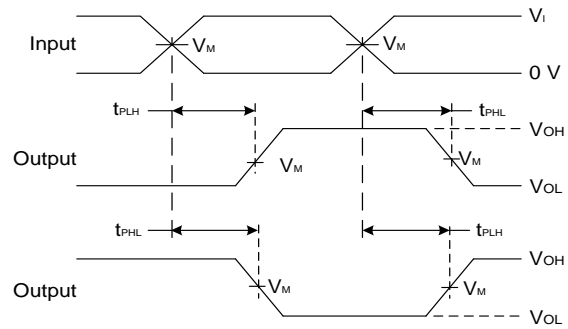
Parameter Measurement Information



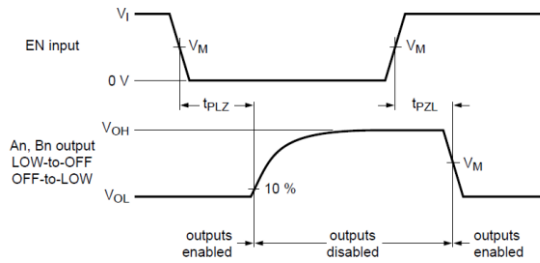
Voltage Waveform Pulse Duration



The VI Source Waveform



**Voltage Waveform Propagation Delay Times
Inverting and Non-Inverting Outputs**



The Enable/Disable (EN) to Output (Yn) Times

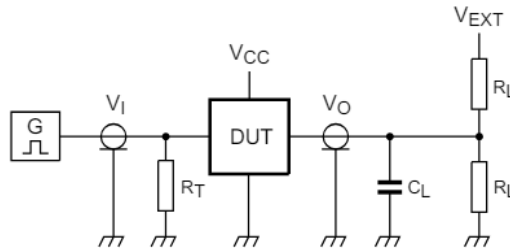


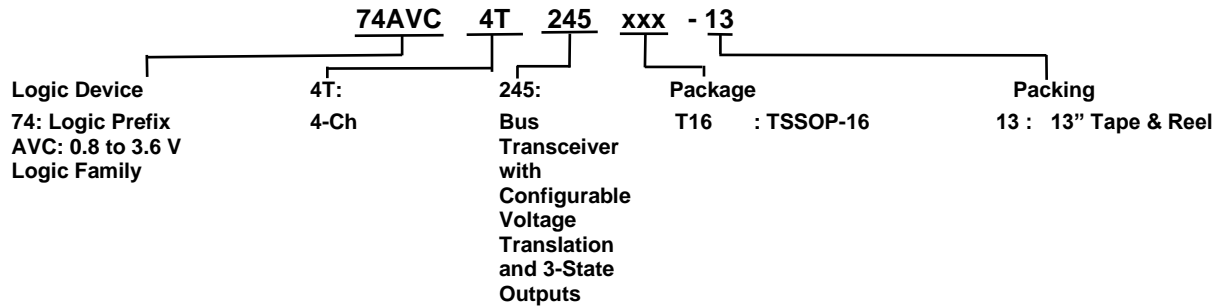
Figure 1. Load Circuit and Voltage Waveforms

Parameter	S1
tpd	Open
ten/tdis	2*VCCO
ten/tdis	GND

VCC	RL	CL	VTP
0.8V-1.6V	2k Ω	15pF	0.1V
1.65V-2.7V	2k Ω	15pF	0.15V
3.0V-3.6V	2k Ω	15pF	0.3V

- Notes:
- A. Includes test lead and test apparatus capacitance.
 - B. $f = 1\text{MHz}$, $\Delta t/\Delta V < 1\text{ns/V}$.
 - C. t_{PLH} and t_{PHL} are the same as t_{PD} .
 - D. t_r , $t_f < 1\text{ns}$.

Ordering Information (Notes 12, 13, 14)

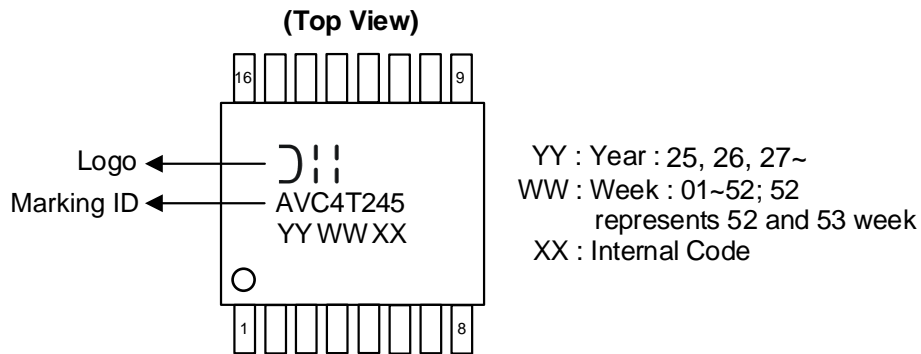


Orderable Part Number	Package Code	Package	Packing	
			Qty.	Carrier
74AVC4T245T16-13	T16	TSSOP-16	2,500	13" Tape & Reel

Notes: 12. For packaging details, go to our website at <https://www.diodes.com/design/support/packaging/diodes-packaging/>.
 13. Pad layout as shown in Diodes Incorporated's package outline PDFs, which can be found on our website at <http://www.diodes.com/package-outlines.html>.
 14. The taping orientation is located on our website at <https://www.diodes.com/assets/Packaging-Support-Docs/AP02007.pdf>.

Marking Information

TSSOP-16

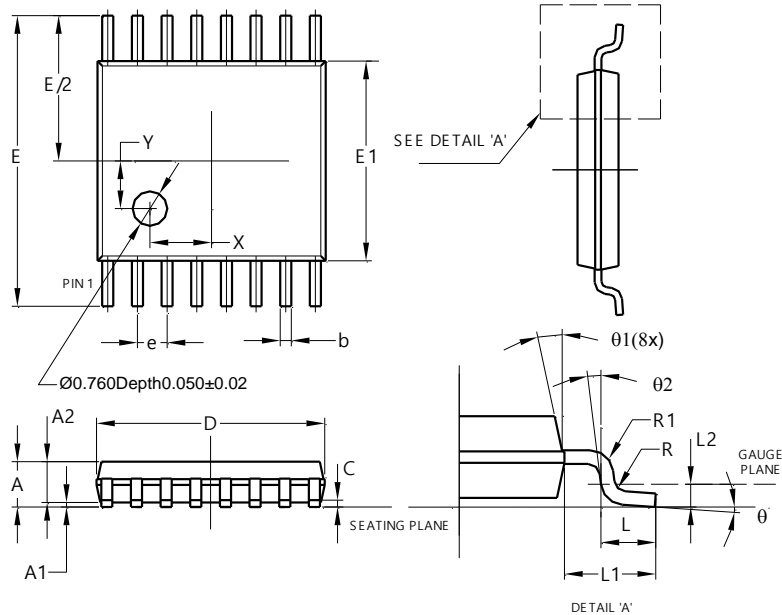


Orderable Part Number	Package	Marking ID
74AVC4T245T16-13	TSSOP-16	AVC4T245

Package Outline Dimensions

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

TSSOP-16

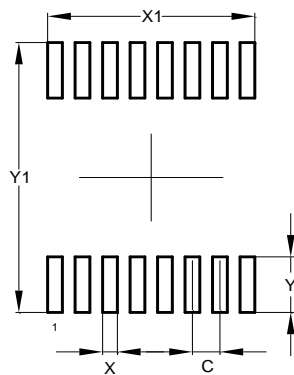


TSSOP-16			
Dim	Min	Max	Typ
A	-	1.08	-
A1	0.05	0.15	-
A2	0.80	0.93	-
b	0.19	0.30	-
c	0.09	0.20	-
D	4.90	5.10	-
E	6.40 BSC		
E1	4.30	4.50	-
e	0.65 BSC		
L	0.45	0.75	-
L1	1.00 REF		
L2	0.25 BSC		
R / R1	0.09	-	-
X	-	-	1.350
Y	-	-	1.050
θ	0°	8°	-
θ1	5°	15°	-
θ2	0°	-	-
All Dimensions in mm			

Suggested Pad Layout

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

TSSOP-16



Dimensions	Value (in mm)
C	0.650
X	0.350
X1	4.900
Y	1.400
Y1	6.800

Mechanical Data

TSSOP-16

- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Finish - Matte Tin Plated Leads, Solderable per MIL-STD-202, Method 208 ③
- Weight: 0.055 grams (Approximate)

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