



# MC74AC245, MC74ACT245

## MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V <sub>CC</sub>	DC Supply Voltage (Referenced to GND)	-0.5 to +6.5	V
V <sub>IN</sub>	DC Input Voltage (Referenced to GND)	-0.5 to V <sub>CC</sub> +0.5	V
V <sub>OUT</sub>	DC Output Voltage (Referenced to GND) (Note 1)	-0.5 to V <sub>CC</sub> +0.5	V
I <sub>IK</sub>	DC Input Diode Current	±20	mA
I <sub>OK</sub>	DC Output Diode Current	±50	mA
I <sub>OUT</sub>	DC Output Sink/Source Current	±50	mA
I <sub>CC</sub>	DC Supply Current, per Output Pin	±50	mA
I <sub>GND</sub>	DC Ground Current, per Output Pin	±100	mA
T <sub>STG</sub>	Storage Temperature Range	-65 to +150	°C
T <sub>L</sub>	Lead temperature, 1 mm from Case for 10 Seconds	260	°C
T <sub>J</sub>	Junction Temperature Under Bias	140	°C
θ <sub>JA</sub>	Thermal Resistance (Note 2)	SOIC TSSOP 96 150	°C/W
MSL	Moisture Sensitivity	Level 1	
F <sub>R</sub>	Flammability Rating	Oxygen Index: 30% – 35% UL 94 V-0 @ 0.125 in	
V <sub>ESD</sub>	ESD Withstand Voltage	Human Body Model (Note 3) Charged Device Model (Note 4) > 2000 > 1000	V

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## DC CHARACTERISTICS

Symbol	Parameter	V <sub>CC</sub> (V)	74AC		74AC	Unit	Conditions
			T <sub>A</sub> = +25°C		T <sub>A</sub> = -40°C to +85°C		
			Typ	Guaranteed Limits			
V <sub>IH</sub>	Minimum High Level Input Voltage	3.0	1.5	2.1	2.1	V	V <sub>OUT</sub> = 0.1 V or V <sub>CC</sub> - 0.1 V
		4.5	2.25	3.15	3.15		
		5.5	2.75	3.85	3.85		
V <sub>IL</sub>	Maximum Low Level Input Voltage	3.0	1.5	0.9	0.9	V	

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**AC CHARACTERISTICS** (For Figures and Waveforms – See AND8277/D at [www.onsemi.com](http://www.onsemi.com))

Symbol	Parameter	V <sub>CC</sub> * (V)	74AC			74AC		Unit	Fig. No.
			T <sub>A</sub> = +25°C C <sub>L</sub> = 50 pF			T <sub>A</sub> = -40°C to +85°C C <sub>L</sub> = 50 pF			
			Min	Typ	Max	Min	Max		
t <sub>PLH</sub>	Propagation Delay A <sub>n</sub> to B <sub>n</sub> or B <sub>n</sub> to A <sub>n</sub>	3.3	1.5	5.0	8.5	1.0	9.0	ns	3-5
		5.0	1.5	3.5	6.5	1.0	7.0		
t <sub>PHL</sub>	Propagation Delay A <sub>n</sub> to B <sub>n</sub> or B <sub>n</sub> to A <sub>n</sub>	3.3	1.5	5.0	8.5	1.0	9.0	ns	3-5
		5.0	1.5	3.5	6.0	1.0	7.0		
t <sub>PZH</sub>									

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**AC CHARACTERISTICS** (For Figures and Waveforms – See AND8277/D at [www.onsemi.com](http://www.onsemi.com))

Symbol	Parameter	V <sub>CC</sub> * (V)	74ACT			74ACT		Unit	Fig. No.
			T <sub>A</sub> = +25°C C <sub>L</sub> = 50 pF			T <sub>A</sub> = -40°C to +85°C C <sub>L</sub> = 50 pF			
			Min	Typ	Max	Min	Max		
t <sub>PLH</sub>	Propagation Delay, A <sub>n</sub> to B <sub>n</sub> or B <sub>n</sub> to A <sub>n</sub>	5.0	1.5	4.0	7.5	1.5	8.0	ns	3-5
t <sub>PHL</sub>	Propagation Delay, A <sub>n</sub> to B <sub>n</sub> or B <sub>n</sub> to A <sub>n</sub>	5.0	1.5	4.0	8.0	1.0	9.0	ns	3-5
t <sub>PZH</sub>	Output Enable Time	5.0	1.5	5.0	10	1.5	11.0	ns	3-7
t <sub>PZL</sub>	Output Enable Time	5.0	1.5	5.5	10	1.5	12.0	ns	3-8
t <sub>PHZ</sub>	Output Disable Time	5.0	1.5	5.5	10	1.0	11.0	ns	3-7
t <sub>PLZ</sub>	Output Disable Time	5.0	2.0	5.0	10	1.5	11.0	ns	3-8

\*Voltage Range 5.0 V is 5.0 V ±0.5 V.

## CAPACITANCE

Symbol	Parameter	Value Typ	Unit	Test Conditions
C <sub>IN</sub>	Input Capacitance	4.5	pF	V <sub>CC</sub> = 5.0 V
C <sub>I/O</sub>	Input/Output Capacitance	15	pF	V <sub>CC</sub> = 5.0 V
C <sub>PD</sub>	Power Dissipation Capacitance	45	pF	V <sub>CC</sub> = 5.0 V

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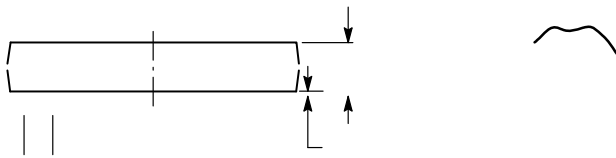
### ORDERING INFORMATION

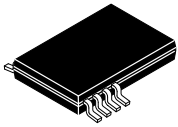
Device	Marking	Package	Shipping†
MC74AC245DWG	AC245	SOIC-20	38 Units / Rail
MC74AC245DWR2G	AC245	SOIC-20	1000 / Tape & Reel
MC74ACT245DWG	ACT245	SOIC-20	38 Units / Rail
MC74ACT245DWR2G	ACT245	SOIC-20	1000 / Tape & Reel
MC74AC245DTG	AC 245	TSSOP-20	75 Units / Rail
MC74AC245DTR2G	AC 245	TSSOP-20	2500 / Tape & Reel
MC74ACT245DTR2G	ACT 245	TSSOP-20	2500 / Tape & Reel

†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

SOIC-20 WB  
CASE 751D-05  
ISSUE H

DATE 22 APR 2015





SCALE 2:1

**TSSOP-20 WB**  
CASE 948E  
ISSUE D

DATE 17 FEB 2016



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