

# 74F365

## Hex Buffer/Driver with 3-STATE Outputs

### General Description

The 74F365 is a hex buffer and line driver designed to be employed as a memory and address driver, clock driver and bus-oriented transmitter/receiver.

### Features

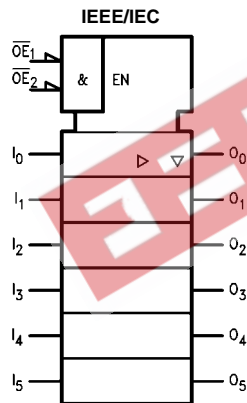
- 3-STATE buffer outputs
- Outputs sink 64 mA
- Bus-oriented

### Ordering Code:

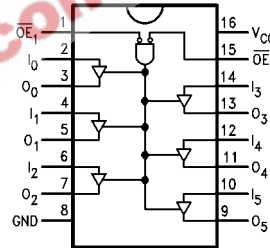
Order Number	Package Number	Package Description
74F365SC	M16A	16-Lead Small Outline Integrated Circuit (SOIC), JEDEC MS-012, 0.150 Narrow
74F365PC	N16E	16-Lead Plastic Dual-In-Line Package (PDIP), JEDEC MS-001, 0.300 Wide

Devices also available in Tape and Reel. Specify by appending the suffix letter "X" to the ordering code.

### Logic Symbol



### Connection Diagram



### Function Table

Inputs			Output
$\overline{OE}_1$	$\overline{OE}_2$	I	O
L	L	L	L
L	L	H	H
X	H	X	Z
H	X	X	Z

L = LOW Voltage Level  
H = HIGH Voltage Level  
X = Immaterial  
Z = High Impedance

### Unit Loading/Fan Out

Pin Names	Description	U.L. HIGH/LOW	Input $I_{IH}/I_{IL}$ Output $I_{OH}/I_{OL}$
$\overline{OE}_1, \overline{OE}_2$	Output Enable Input (Active LOW)	1.0/0.033	20 $\mu$ A/20 $\mu$ A
$I_n$	Inputs	1.0/0.033	20 $\mu$ A/20 $\mu$ A
$O_n$	Outputs	600/106.6 (80)	-12 mA/64 mA (48 mA)

Absolute Maximum Ratings (Note 1)		Recommended Operating Conditions	
Storage Temperature	-65°C to +150°C	Free Air Ambient Temperature	0°C to +70°C
Ambient Temperature under Bias	-55°C to +125°C	Supply Voltage	+4.5V to +5.5V
Junction Temperature under Bias	-55°C to +150°C		
V <sub>CC</sub> Pin Potential to Ground Pin	-0.5V to +7.0V		
Input Voltage (Note 2)	-0.5V to +7.0V		
Input Current (Note 2)	-30 mA to +5.0 mA		
Voltage Applied to Output			
in HIGH State (with V <sub>CC</sub> = 0V)			
Standard Output	-0.5V to V <sub>CC</sub>		
3-STATE Output	-0.5V to +5.5V		
Current Applied to Output			
in LOW State (Max)	twice the rated I <sub>OL</sub> (mA)		

**Note 1:** Absolute maximum ratings are values beyond which the device may be damaged or have its useful life impaired. Functional operation under these conditions is not implied.

**Note 2:** Either voltage limit or current limit is sufficient to protect inputs.

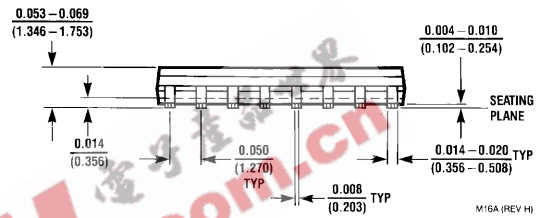
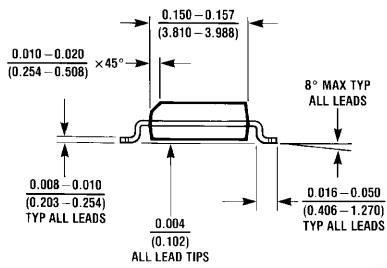
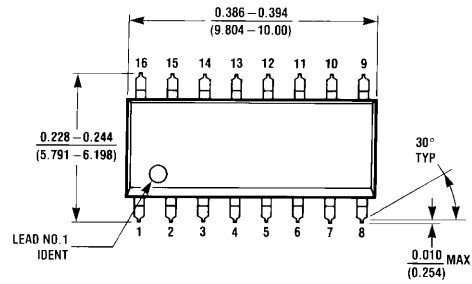
### DC Electrical Characteristics

Symbol	Parameter	Min	Typ	Max	Units	V <sub>CC</sub>	Conditions
V <sub>IH</sub>	Input HIGH Voltage	2.0			V		Recognized as a HIGH Signal
V <sub>IL</sub>	Input LOW Voltage			0.8	V		Recognized as a LOW Signal
V <sub>CD</sub>	Input Clamp Diode Voltage			-1.2	V	Min	I <sub>IN</sub> = -18 mA
V <sub>OH</sub>	Output HIGH Voltage	10% V <sub>CC</sub> 2.4 10% V <sub>CC</sub> 2.0 5% V <sub>CC</sub> 2.7			V	Min	I <sub>OH</sub> = -3 mA I <sub>OH</sub> = -15 mA I <sub>OH</sub> = -3 mA
V <sub>OL</sub>	Output LOW Voltage	10% V <sub>CC</sub>		0.55	V	Min	I <sub>OL</sub> = 64 mA
I <sub>IH</sub>	Input HIGH Current			20	μA	Max	V <sub>IN</sub> = 2.7V
I <sub>BVI</sub>	Input HIGH Current Breakdown Test			100	μA	0.0	V <sub>IN</sub> = 7.0V
I <sub>IL</sub>	Input LOW Current			-20	μA	Max	V <sub>IN</sub> = 0.5V
I <sub>OZH</sub>	Output Leakage Current			50	μA	Max	V <sub>OUT</sub> = 2.7V
I <sub>OZL</sub>	Output Leakage Current			-50	μA	Max	V <sub>OUT</sub> = 0.5V
I <sub>OS</sub>	Output Short-Circuit Current	-100		-225	mA	Max	V <sub>OUT</sub> = 0V
I <sub>CEX</sub>	Output HIGH Leakage Current			250	μA	Max	V <sub>OUT</sub> = V <sub>CC</sub>
I <sub>ZZ</sub>	Bus Drainage Test			500	μA	0.0V	V <sub>OUT</sub> = 5.25V
I <sub>CCH</sub>	Power Supply Current		25	35	mA	Max	V <sub>O</sub> = HIGH
I <sub>CCL</sub>	Power Supply Current		44	62	mA	Max	V <sub>O</sub> = LOW
I <sub>CCZ</sub>	Power Supply Current		35	48	mA	Max	V <sub>O</sub> = HIGH Z

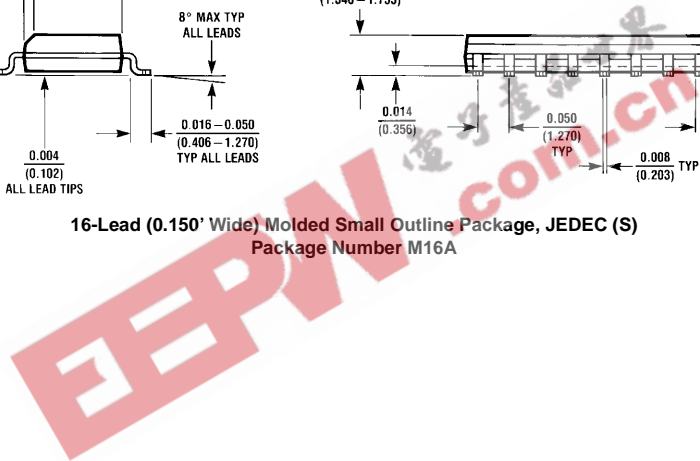
### AC Electrical Characteristics

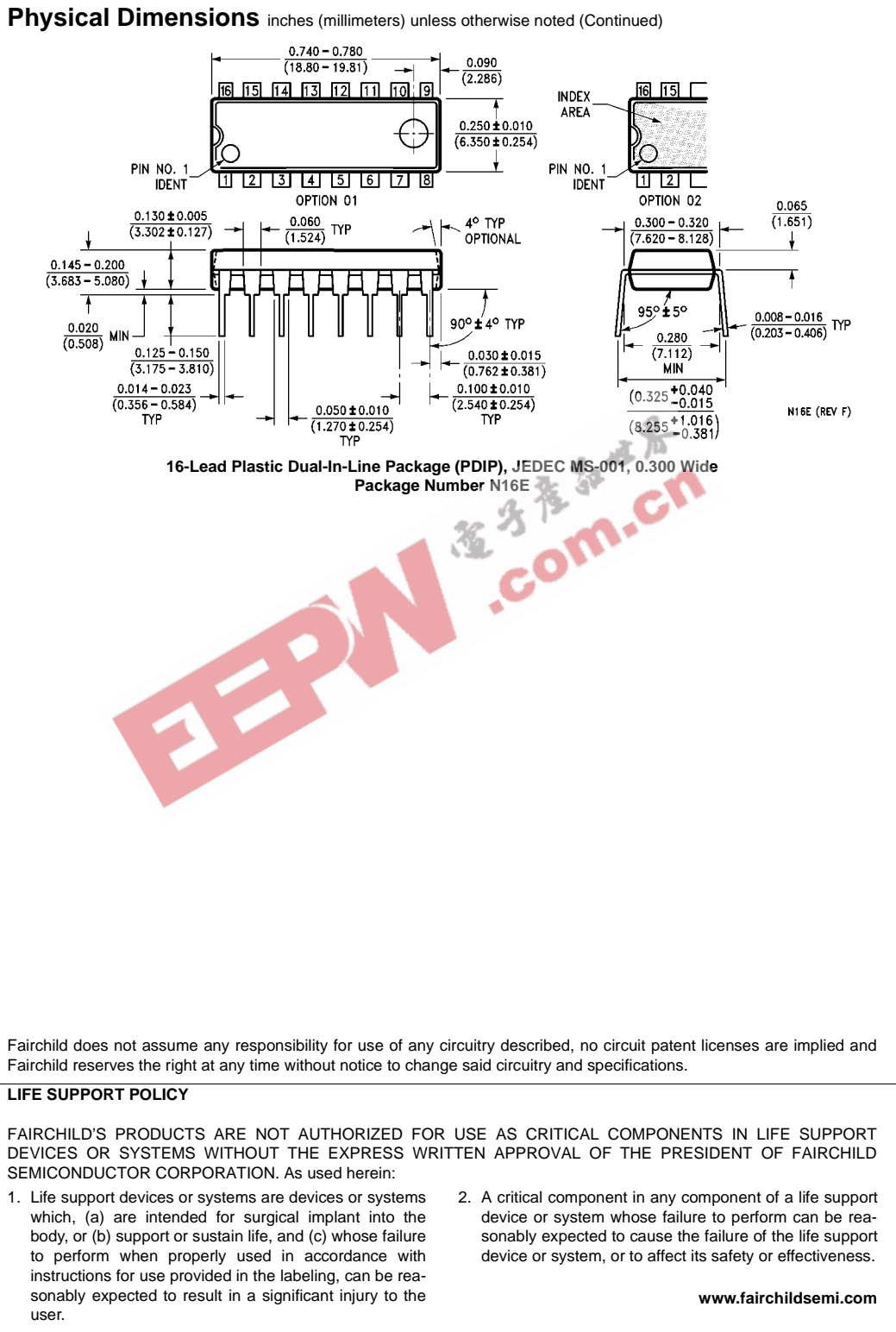
Symbol	Parameter	T <sub>A</sub> = +25°C V <sub>CC</sub> = +5.0V C <sub>L</sub> = 50 pF			T <sub>A</sub> = -55°C to +125°C V <sub>CC</sub> = +5.0V C <sub>L</sub> = 50 pF		T <sub>A</sub> = 0°C to +70°C V <sub>CC</sub> = +5.0V C <sub>L</sub> = 50 pF		Units
		Min	Typ	Max	Min	Max	Min	Max	
t <sub>PLH</sub>	Propagation Delay	2.5	4.6	6.5	2.0	7.0	2.0	7.0	ns
t <sub>PHL</sub>	I <sub>n</sub> to O <sub>n</sub>	2.5	4.9	7.0	2.0	7.0	2.0	7.5	
t <sub>PZH</sub>	Enable Time	2.5	5.1	9.5	2.0	8.5	2.5	10.0	ns
t <sub>PZL</sub>		2.5	5.7	9.0	2.0	8.5	2.5	9.5	
t <sub>PHZ</sub>	Disable Time	2.0	3.6	6.5	1.5	6.5	2.0	7.0	ns
t <sub>PLZ</sub>		2.0	4.4	6.5	1.5	9.0	2.0	7.0	

**Physical Dimensions** inches (millimeters) unless otherwise noted



**16-Lead (0.150" Wide) Molded Small Outline Package, JEDEC (S)**  
**Package Number M16A**





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