

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

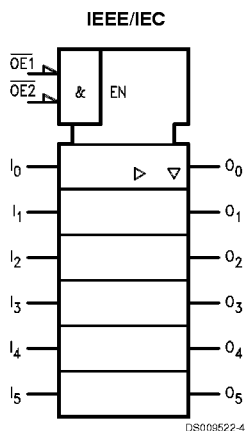
Ordering Code:

Commercial	Military	Package Number	Package Description
74F365PC		N16E	16-Lead (0.300" Wide) Molded Dual-In-Line
	54F365DM (Note 2)	J16A	16-Lead Ceramic Dual-In-Line
74F365SC (Note 1)		M16A	16-Lead (0.150" Wide) Molded Small Outline, JEDEC
	54F365FM (Note 2)	W16A	16-Lead Cerpack
	54F365LM (Note 2)	E20A	20-Lead Ceramic Leadless Chip Carrier, Type C

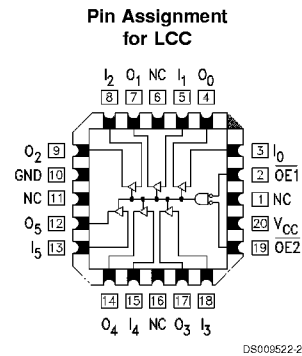
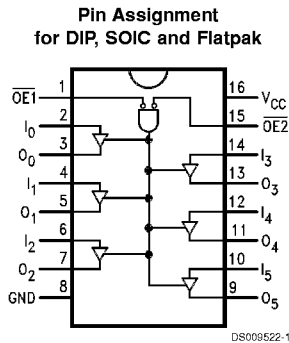
Note 1: Devices also available in 13" reel. Use suffix = SCX.

Note 2: Military grade device with environmental and burn-in processing. Use suffix = DMQB, FMQB and LMQB.

Logic Symbol



Connection Diagrams



Unit Loading/Fan Out

Pin Names	Description	54F/74F	
		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 μ A/20 μ A
I_n	Inputs	1.0/0.033	20 μ A/20 μ A
O_n	Outputs	600/106.6 (80)	-12 mA/64 mA (48 mA)

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

Absolute Maximum Ratings (Note 3)

Storage Temperature	–65°C to +150°C
Ambient Temperature under Bias	–55°C to +125°C
Junction Temperature under Bias	–55°C to +175°C
Plastic	–55°C to +150°C
V _{CC} Pin Potential to Ground Pin	–0.5V to +7.0V
Input Voltage (Note 4)	–0.5V to +7.0V
Input Current (Note 4)	–30 mA to +5.0 mA
Voltage Applied to Output in HIGH State (with V _{CC} = 0V)	
Standard Output	–0.5V to V _{CC}
3-STATE Output	–0.5V to +5.5V
Current Applied to Output	

in LOW State (Max)

twice the rated I_{OL} (mA)

Recommended Operating Conditions

Free Air Ambient Temperature	
Military	–55°C to +125°C
Commercial	0°C to +70°C
Supply Voltage	
Military	+4.5V to +5.5V
Commercial	+4.5V to +5.5V

Note 3: 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 4: Either voltage limit or current limit is sufficient to protect inputs.

DC Electrical Characteristics

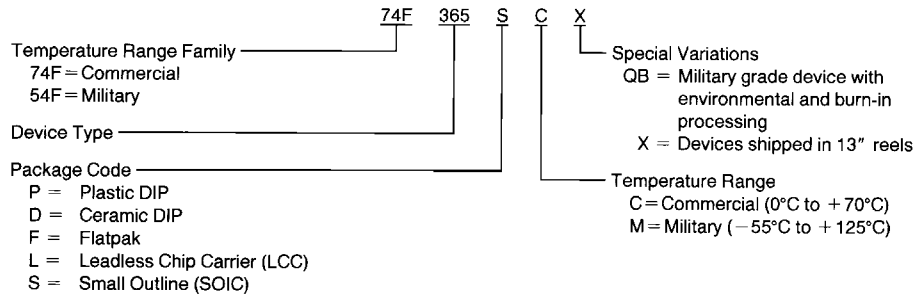
Symbol	Parameter	54F/74F			Units	V _{CC}	Conditions
		Min	Typ	Max			
V _{IH}	Input HIGH Voltage	2.0			V		Recognized as a HIGH Signal
V _{IL}	Input LOW Voltage			0.8	V		Recognized as a LOW Signal
V _{CD}	Input Clamp Diode Voltage			–1.2	V	Min	I _{IN} = –18 mA
V _{OH}	Output HIGH	54F 10% V _{CC}	2.4		V	Min	I _{OH} = –3 mA
	Voltage	54F 10% V _{CC}	2.0				I _{OH} = –12 mA
		74F 10% V _{CC}	2.4				I _{OH} = –3 mA
		74F 10% V _{CC}	2.0				I _{OH} = –15 mA
		74F 5% V _{CC}	2.7				I _{OH} = –3 mA
V _{OL}	Output LOW	54F 10% V _{CC}		0.55	V	Min	I _{OL} = 48 mA
	Voltage	74F 10% V _{CC}		0.55			I _{OL} = 64 mA
I _{IH}	Input HIGH Current			20	μA	Max	V _{IN} = 2.7V
I _{BVI}	Input HIGH Current Breakdown Test			100	μA	0.0	V _{IN} = 7.0V
I _{IL}	Input LOW Current			–20	μA	Max	V _{IN} = 0.5V
I _{OZH}	Output Leakage Current			50	μA	Max	V _{OUT} = 2.7V
I _{OZL}	Output Leakage Current			–50	μA	Max	V _{OUT} = 0.5V
I _{OS}	Output Short-Circuit Current	–100		–225	mA	Max	V _{OUT} = 0V
I _{CEX}	Output HIGH Leakage Current			250	μA	Max	V _{OUT} = V _{CC}
I _{ZZ}	Bus Drainage Test			500	μA	0.0V	V _{OUT} = 5.25V
I _{CCH}	Power Supply Current		25	35	mA	Max	V _O = HIGH
I _{CCL}	Power Supply Current		44	62	mA	Max	V _O = LOW
I _{CCZ}	Power Supply Current		35	48	mA	Max	V _O = HIGH Z

AC Electrical Characteristics

Symbol	Parameter	74F			54F		74F		Units
		T _A = +25° C V _{CC} = +5.0V C _L = 50 pF			T _A , V _{CC} = Mil C _L = 50 pF		T _A , V _{CC} = Com C _L = 50 pF		
		Min	Typ	Max	Min	Max	Min	Max	
t _{PLH}	Propagation Delay	2.5	4.6	6.5	2.0	7.0	2.0	7.0	ns
t _{PHL}	I _n to O _n	2.5	4.9	7.0	2.0	7.0	2.0	7.5	
t _{PZH}	Enable Time	2.5	5.1	9.5	2.0	8.5	2.5	10.0	ns
t _{PZL}		2.5	5.7	9.0	2.0	8.5	2.5	9.5	
t _{PHZ}	Disable Time	2.0	3.6	6.5	1.5	6.5	2.0	7.0	ns
t _{PLZ}		2.0	4.4	6.5	1.5	9.0	2.0	7.0	

Ordering Information

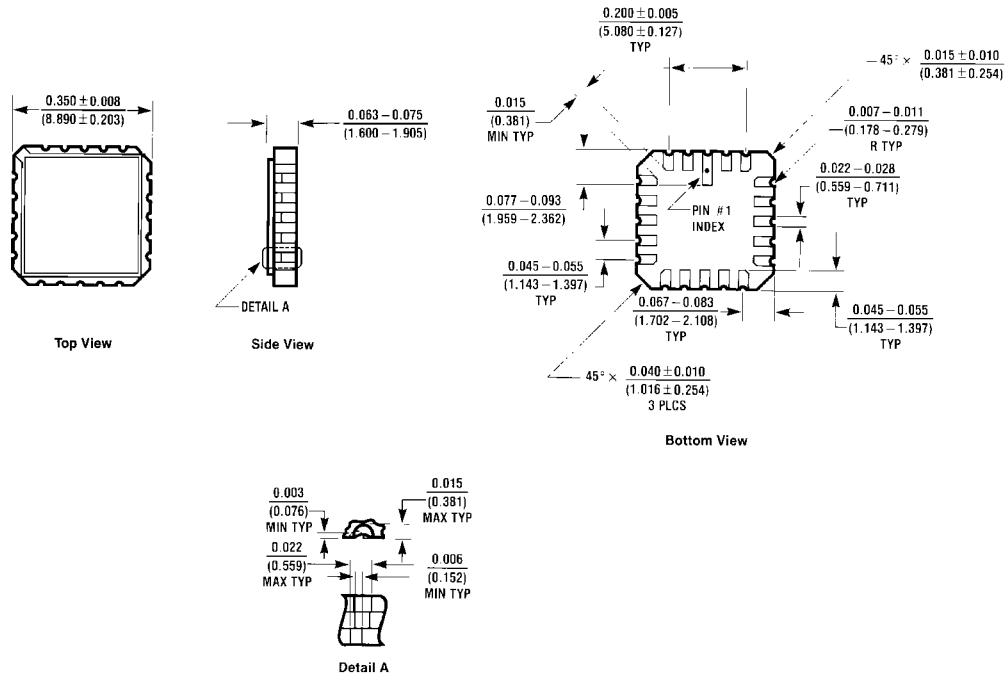
The device number is used to form part of a simplified purchasing code where the package type and temperature range are defined as follows:



DS000522-5

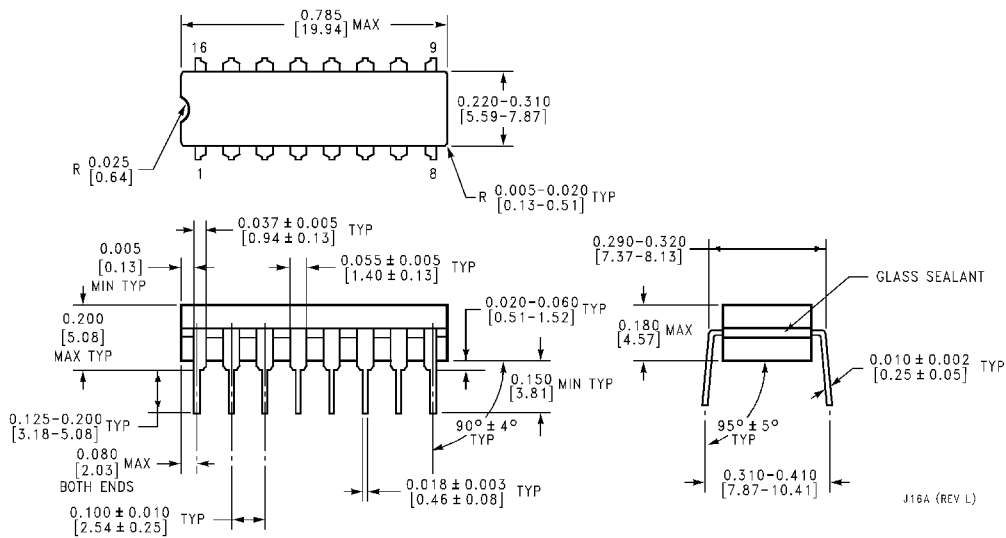
Physical Dimensions

inches (millimeters) unless otherwise noted

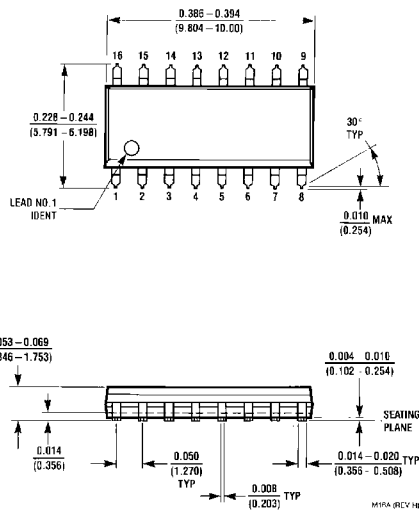


ECOA (REV D)

**20-Lead Ceramic Leadless Chip Carrier (L)
Package Number E20A**

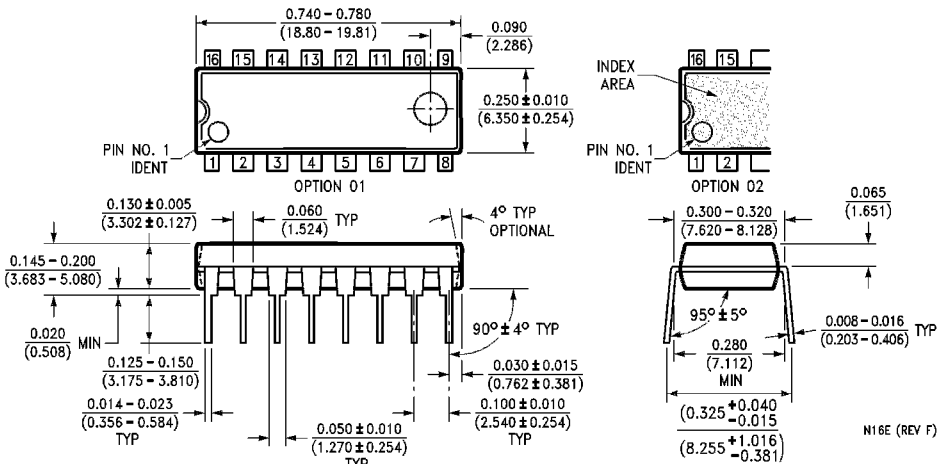
Physical Dimensions inches (millimeters) unless otherwise noted (Continued)

16-Lead Ceramic Dual-In-Line Package (D)
Package Number J16A

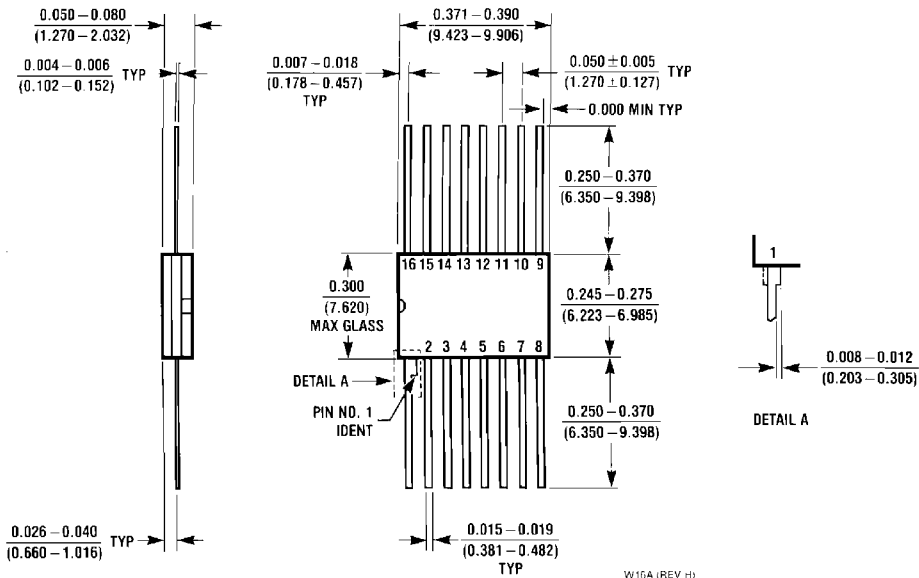


**16-Lead (0.150" Wide) Molded Small Outline Package, JEDEC (S)
Package Number M16A**

inches (millimeters) unless otherwise noted (Continued)



**16-Lead (0.300" Wide) Molded Dual-In-Line Package (P)
Package Number N16E**



16-Lead Ceramic Flatpak (F)
Package Number W16A

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