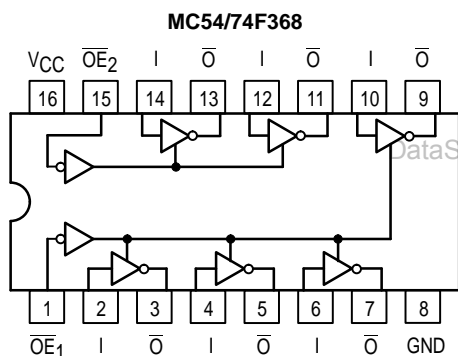
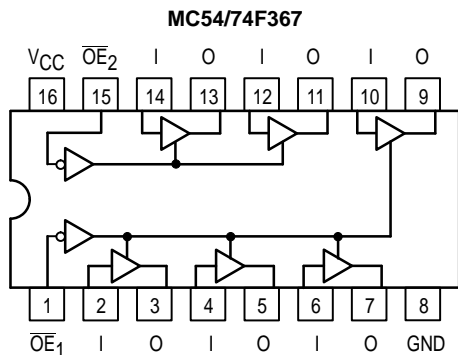




# HEX BUFFER/DRIVER 4-BIT PLUS 2-BIT, NONINVERTING AND INVERTING, 3-STATE

## CONNECTION DIAGRAMS



## FUNCTION TABLE

Inputs		Outputs	
$\overline{OE}$	I	O	$\overline{O}$
L	L	L	H
L	H	H	L
H	X	Z	Z

H = HIGH Voltage Level  
L = LOW Voltage Level  
X = Don't Care  
Z = High Impedance

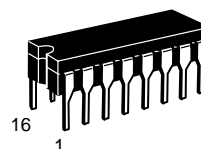
## GUARANTEED OPERATING RANGES

Symbol	Parameter		Min	Typ	Max	Unit
$V_{CC}$	Supply Voltage	54, 74	4.5	5.0	5.5	V
$T_A$	Operating Ambient Temperature Range	54	-55	25	125	°C
		74	0	25	70	
$I_{OH}$	Output Current — High	54			-12	mA
		74			-15	
$I_{OL}$	Output Current — Low	54			48	mA
		74			64	

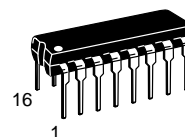
**MC54/74F367  
MC54/74F368**

**F367  
HEX BUFFER/DRIVER  
4-BIT PLUS 2-BIT,  
NONINVERTING 3-STATE**

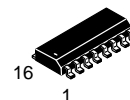
**F368  
HEX BUFFER/DRIVER  
4-BIT PLUS 2-BIT,  
INVERTING 3-STATE  
FAST™ SCHOTTKY TTL**



**J SUFFIX  
CERAMIC  
CASE 620-09**



**N SUFFIX  
PLASTIC  
CASE 648-08**



**D SUFFIX  
SOIC  
CASE 751B-03**

## ORDERING INFORMATION

MC54FXXXJ Ceramic  
MC74FXXXN Plastic  
MC74FXXXD SOIC

## MC54/74F367 • MC54/74F368

## DC CHARACTERISTICS OVER OPERATING TEMPERATURE RANGE (unless otherwise specified)

Symbol	Parameter	Limits			Unit	Test Conditions		
		Min	Typ	Max				
V <sub>IH</sub>	Input HIGH Voltage	2.0			V	Guaranteed Input HIGH Voltage		
V <sub>IL</sub>	Input LOW Voltage			0.8	V	Guaranteed Input LOW Voltage		
V <sub>IK</sub>	Input Clamp Diode Voltage			-1.2	V	I <sub>IN</sub> = -18 mA	V <sub>CC</sub> = MIN	
V <sub>OH</sub>	Output HIGH Voltage	54, 74	2.4	3.4		V	I <sub>OH</sub> = -3.0 mA	V <sub>CC</sub> = 4.5 V
		74	2.7	3.4		V	I <sub>OH</sub> = -3.0 mA	V <sub>CC</sub> = 4.75 V
		54	2.0			V	I <sub>OH</sub> = -12 mA	V <sub>CC</sub> = 4.5 V
		74	2.0			V	I <sub>OH</sub> = -15 mA	V <sub>CC</sub> = 4.5 V
V <sub>OL</sub>	Output LOW Voltage	54		0.35	0.55	V	I <sub>OL</sub> = 48 mA	V <sub>CC</sub> = MAX
		74		0.4	0.55	V	I <sub>OL</sub> = 64 mA	
I <sub>OZH</sub>	Output Off Current HIGH			50		μA	V <sub>OUT</sub> = 2.7 V	V <sub>CC</sub> = MAX
I <sub>OZL</sub>	Output Off Current LOW			-50		μA	V <sub>OUT</sub> = 0.5 V	V <sub>CC</sub> = MAX
I <sub>IH</sub>	Input HIGH Current			20		μA	V <sub>IN</sub> = 2.7 V	V <sub>CC</sub> = MAX
				100			V <sub>IN</sub> = 7.0 V	V <sub>CC</sub> = 0 V
I <sub>IL</sub>	Input LOW Current			-20		μA	V <sub>IN</sub> = 0.5 V	V <sub>CC</sub> = MAX
I <sub>OS</sub>	Output Short Circuit Current (Note 2)	-100		-225		mA	V <sub>OUT</sub> = GND	V <sub>CC</sub> = MAX
I <sub>CC</sub>	F367	I <sub>CCH</sub>			35	mA	V <sub>CC</sub> = MAX	
		I <sub>CCL</sub>			62			
		I <sub>CCZ</sub>			48			
	F368	I <sub>CCH</sub>			25			
		I <sub>CCL</sub>			62			
		I <sub>CCZ</sub>			48			

## NOTES:

- For conditions shown as MIN or MAX, use the appropriate value specified under recommended operating conditions for the applicable device type.
- Not more than one output should be shorted at a time, nor for more than 1 second.

## AC CHARACTERISTICS

Symbol	Parameter	54/74F			54F		74F		Unit	
		T <sub>A</sub> = +25°C			T <sub>A</sub> = -55°C to +125°C		T <sub>A</sub> = 0°C to +70°C			
		V <sub>CC</sub> = +5.0 V			V <sub>CC</sub> = 5.0 V ± 10%		V <sub>CC</sub> = 5.0 V ± 10%			
		C <sub>L</sub> = 50 pF			C <sub>L</sub> = 50 pF		C <sub>L</sub> = 50 pF			
		Min	Typ	Max	Min	Max	Min	Max		
t <sub>PLH</sub>	Propagation Delay	F367	2.0	4.5	6.5	2.0	8.0	2.0	7.0	ns
t <sub>PHL</sub>	I <sub>n</sub> to O <sub>n</sub>		3.0	5.5	7.0	3.0	8.5	3.0	7.5	
t <sub>PLH</sub>	Propagation Delay	F368	2.0	5.0	6.5	2.0	8.5	2.0	7.5	ns
t <sub>PHL</sub>	I <sub>n</sub> to O <sub>n</sub>		1.0	3.0	5.0	1.0	6.5	1.0	5.5	
t <sub>PZH</sub>	Output Enable Time		2.5	5.5	7.5	2.5	9.5	2.5	8.5	ns
t <sub>PZL</sub>	to HIGH and LOW Level		3.0	6.5	8.5	3.0	10	3.0	9.0	
t <sub>PHZ</sub>	Output Disable Time		2.5	4.5	6.5	2.5	8.0	2.5	7.0	ns
t <sub>PLZ</sub>	from HIGH and LOW Level		1.5	4.0	6.0	1.5	7.5	1.5	6.5	