MOTOROLA

MC54/74F365
MC54/74F366

HEX BUFFER/DRIVER GATED ENABLE NONINVERTING AND INVERTING, 3-STATE

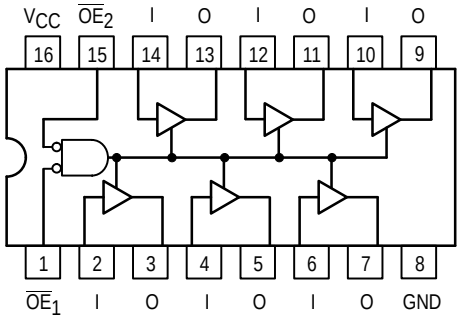
F365
HEX BUFFER/DRIVER
GATED ENABLE
NONINVERTING, 3-STATE

F366
HEX BUFFER/DRIVER
GATED ENABLE
INVERTING, 3-STATE

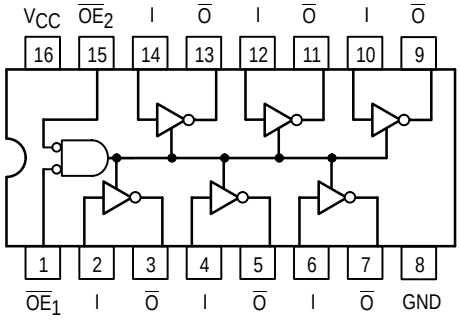
FAST™ SCHOTTKY TTL

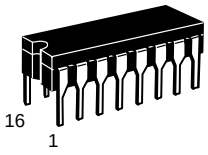
CONNECTION DIAGRAM

MC54/74F365

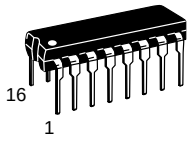


MC54/74F366

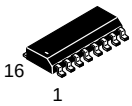




J SUFFIX
CERAMIC
CASE 620-09



N SUFFIX
PLASTIC
CASE 648-08



D SUFFIX
SOIC
CASE 751B-03

ORDERING INFORMATION

MC54FXXXJ	Ceramic
MC74FXXXN	Plastic
MC74FXXXD	SOIC

FUNCTION TABLE

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

DC CHARACTERISTICS OVER OPERATING TRMPERATURE RANGE (unless otherwise specified)

Symbol	Parameter		Limits Min	Limits Typ	Limits Max	Unit	Test Conditions	
V_{IH}	Input HIGH Voltage		2.0			V	Guaranteed Input HIGH Voltage	
V_{IL}	Input LOW Voltage				0.8	V	Guaranteed Input LOW Voltage	
V_{IK}	Input Clamp Diode Voltage				–1.2	V	I_{IN} = –18 mA	V_{CC} = MIN
V_{OH}	Output HIGH Voltage	54,74	2.4	3.4		V	I_{OH} = –3.0 mA	V_{CC} = 4.5 V
		74	2.7	3.4		V	I_{OH} = –3.0 mA	V_{CC} = 4.75 V
		54	2.0			V	I_{OH} = –12 mA	V_{CC} = 4.5 V
		74	2.0			V	I_{OH} = –15 mA	V_{CC} = 4.5 V
V_{OL}	Output LOW Voltage	54		0.35	0.55	V	I_{OL} = 48 mA	V_{CC} = MAX
		74		0.4	0.55	V	I_{OL} = 64 mA	
I_{OZH}	Output OFF Current–HIGH				50	µA	V_{OUT} = 2.7 V	V_{CC} = MAX
I_{OZL}	Output OFF Current–LOW				–50	µA	V_{OUT} = 0.5 V	V_{CC} = MAX
I_{IH}	Input HIGH Current				20	µA	V_{IN} = 2.7 V	V_{CC} = MAX
					100	µA	V_{IN} = 7.0 V	V_{CC} = 0 V
I_{IL}	Input LOW Current				–20	µA	V_{IN} = 0.5 V	V_{CC} = MAX
I_{OS}	Output Short Circuit Current (Note 2)		–100		–225	mA	V_{OUT} = GND	V_{CC} = MAX
I_{CC}	F365	I_{CCH}			35	mA	V_{CC} = MAX	
		I_{CCL}			62			
		I_{CCZ}			48			
	F366	I_{CCH}			25			
		I_{CCL}			62			
		I_{CCZ}			48			

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

AC CHARACTERISTICS

Symbol	Parameter		54/74F T_A = +25°C, V_{CC} = +5.0 V, C_L = 50 pF Min	Typ	Max	54F T_A = –55°C to +125°C, V_{CC} = 5.0 V ± 10%, C_L = 50 pF Min	Max	74F T_A = 0°C to +70°C, V_{CC} = 5.0 V ± 10%, C_L = 50 pF Min	Max	Unit
t_{PLH}	Propagation Delay	F365	2.0	4.5	6.5	2.0	8.0	2.0	7.0	ns
t_{PHL}	I_n to O_n		3.0	5.5	7.0	3.0	8.5	3.0	7.5	
t_{PLH}	Propagation Delay	F366	2.0	5.0	6.5	2.0	8.5	2.0	7.5	ns
t_{PHL}	I_n to $\overline{O}_n$		1.0	3.0	5.0	1.0	6.5	1.0	5.5	
t_{PZH}	Output Enable Time		3.0	6.5	9.5	3.0	11	3.0	10	ns
t_{PZL}	to HIGH and LOW Level		4.0	6.0	9.0	4.0	10.5	4.0	9.5	
t_{PHZ}	Output Disable Time		2.5	4.5	6.5	2.5	8.0	2.5	7.0	ns
t_{PLZ}	from HIGH and LOW Level		1.5	4.0	6.0	1.5	7.5	1.5	6.5	