

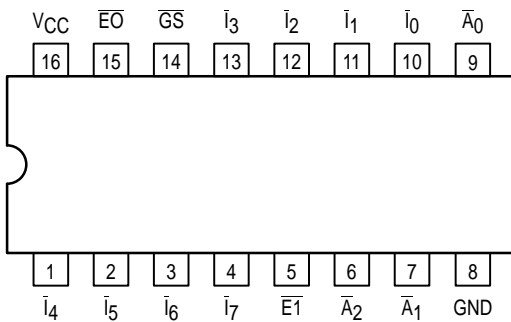


8-LINE TO 3-LINE PRIORITY ENCODER

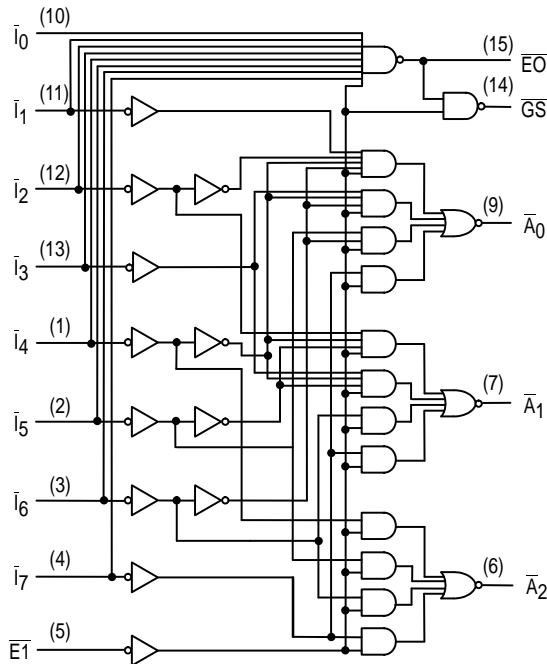
The MC54/74F148 provides three bits of binary coded output representing the position of the highest order active input, along with an output indicating the presence of any active input. It is easily expanded via input and output enables to provide priority encoding over many bits.

- Encodes Eight Data Lines in Priority
- Provides 3-Bit Binary Priority Code
- Input Enable Capability
- Signals When Data Present on Any Input
- Cascadable for Priority Encoding of n Bits

CONNECTION DIAGRAM DIP (TOP VIEW)



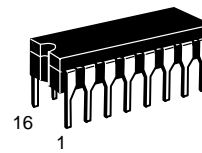
LOGIC DIAGRAM



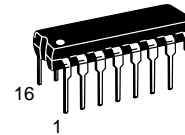
NOTE:
This diagram is provided only for the understanding of logic operations and should not be used to estimate propagation delays.

MC54/74F148

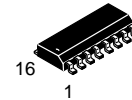
8-LINE TO 3-LINE PRIORITY ENCODER FAST™ SHOTTKY TTL



J SUFFIX
CERAMIC
CASE 620-09



N SUFFIX
PLASTIC
CASE 648-08

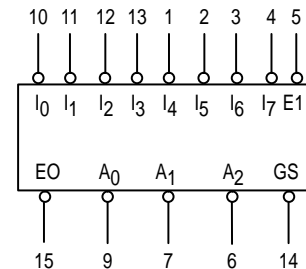


D SUFFIX
SOIC
CASE 751B-03

ORDERING INFORMATION

MC54FXXXJ Ceramic
MC74FXXXN Plastic
MC74FXXXD SOIC

LOGIC SYMBOL



VCC = PIN 16
GND = PIN 8

MC54/74F148

DC CHARACTERISTICS OVER OPERATING TEMPERATURE RANGE (unless otherwise specified)

Symbol	Parameter	Limits			Unit	Test Conditions	
		Min	Typ	Max			
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	2.5	3.4	V	I _{OH} = -1.0 mA	V _{CC} = 4.50 V
		74	2.7	3.4	V	I _{OH} = -1.0 mA	V _{CC} = 4.75 V
V _{OL}	Output LOW Voltage		0.35	0.5	V	I _{OL} = 20 mA	V _{CC} = MIN
I _{IH}	Input HIGH Current			20	μA	V _{CC} = MAX, V _{IN} = 2.7 V	
				100	μA	V _{CC} = MAX, V _{IN} = 7.0 V	
I _{IL}	$\bar{I}_0, \bar{E}1$			-0.6	mA	V _{CC} = MAX, V _{IN} = 0.5 V	
	$\bar{I}_1\text{--}\bar{I}_7$			-1.2	mA		
I _{OS}	Output Short Circuit Current (Note 2)	-60		-150	mA	V _{CC} = MAX, V _{OUT} = 0 V	
I _{CC}	Power Supply Current		23	35	mA	V _{CC} = MAX, V _{IN} = 4.5 V	

NOTES:

- For conditions shown as MIN or MAX, use the appropriate value specified under guaranteed operating ranges.
- 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 _A = +25°C V _{CC} = +5.0 V C _L = 50 pF			T _A = -55°C to +125°C V _{CC} = 5.0 V ± 10% C _L = 50 pF		T _A = 0°C to 70°C V _{CC} = 5.0 V ± 10% C _L = 50 pF		
		Min	Typ	Max	Min	Max	Min	Max	
t _{PLH}	Propagation Delay	3.5	7.0	9.0	3.5	11	3.5	10	ns
t _{PHL}	\bar{I}_n to \bar{A}_n	4.0	8.0	10.5	4.0	13	4.0	12	
t _{PLH}	Propagation Delay	2.5	5.0	6.5	2.5	8.5	2.5	7.5	ns
t _{PHL}	\bar{I}_n to $\bar{E}0$	2.0	5.5	7.5	2.0	9.5	2.0	8.5	
t _{PLH}	Propagation Delay	3.0	7.0	9.0	3.0	11	3.0	10	ns
t _{PHL}	\bar{I}_n to $\bar{G}S$	2.0	6.0	8.0	2.0	10	2.0	9.0	
t _{PLH}	Propagation Delay	3.5	6.5	8.5	3.5	10.5	3.5	9.5	ns
t _{PHL}	$\bar{E}1$ to \bar{A}_n	3.0	6.0	8.0	3.0	10	3.0	9.0	
t _{PLH}	Propagation Delay	2.5	5.0	7.0	2.5	9.0	2.5	8.0	ns
t _{PHL}	$\bar{E}1$ to $\bar{G}S$	3.0	6.0	7.5	3.0	10	3.0	8.5	
t _{PLH}	Propagation Delay	3.0	5.5	7.0	3.0	9.0	3.0	8.0	ns
t _{PHL}	$\bar{E}1$ to $\bar{E}0$	4.5	8.0	10.5	4.5	13	4.5	12	