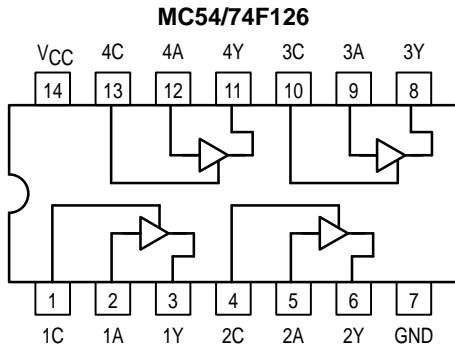
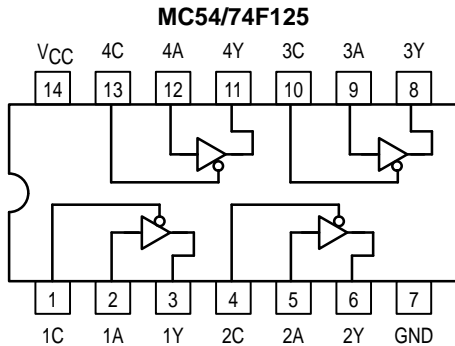




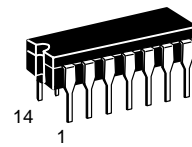
# 3-STATE QUAD BUFFERS

- High Impedance NPN Base Inputs for Reduced Loading

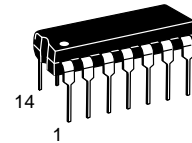


## MC54/74F125 MC54/74F126

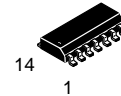
QUAD BUFFERS, 3-STATE  
FAST™ SHOTTKY TTL



**J SUFFIX**  
CERAMIC  
CASE 632-08



**N SUFFIX**  
PLASTIC  
CASE 646-06



**D SUFFIX**  
SOIC  
CASE 751A-02

### ORDERING INFORMATION

MC54FXXXJ Ceramic  
MC74FXXXN Plastic  
MC74FXXXD SOIC

### GUARANTEED OPERATING RANGES

Symbol	Parameter		Min	Typ	Max	Unit
V <sub>CC</sub>	Supply Voltage	54, 74	4.5	5.0	5.5	V
T <sub>A</sub>	Operating Ambient Temperature Range	54	-55	25	125	°C
		74	0	25	70	
I <sub>OH</sub>	Output Current — High	54			-12	mA
		74			-15	
I <sub>OL</sub>	Output Current — Low	54			48	mA
		74			64	

# MC54/74F125 • MC54/74F126

**Function Table MC54/74F125**

Inputs		Output
$\bar{C}$	A	Y
L	L	L
L	H	H
H	X	Z

**Function Table MC54/74F126**

Inputs		Output
C	A	Y
H	L	L
H	H	H
L	X	Z

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

**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> = 4.50 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> = 4.50 V
		74	2.0		V	I <sub>OH</sub> = -15 mA	
V <sub>OL</sub>	Output LOW Voltage	54		0.55	V	I <sub>OL</sub> = 48 mA	V <sub>CC</sub> = MAX
		74		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>	F125	I <sub>CCH</sub>		24	mA	V <sub>CC</sub> = MAX	
		I <sub>CCL</sub>		40			
		I <sub>CCZ</sub>		35			
	F126	I <sub>CCH</sub>		30			
		I <sub>CCL</sub>		48			
		I <sub>CCZ</sub>		39			

**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.

# MC54/74F125 • MC54/74F126

## AC ELECTRICAL CHARACTERISTICS

Symbol	Parameter		54/74F			54F		74F		Unit
			T <sub>A</sub> = +25 °C V <sub>CC</sub> = +5.0 V C <sub>L</sub> = 50 pF			T <sub>A</sub> = 0°C to 70°C V <sub>CC</sub> = 5.0 V ± 10% C <sub>L</sub> = 50 pF		T <sub>A</sub> = 0°C to +70°C V <sub>CC</sub> = 5.0 V ± 10% C <sub>L</sub> = 50 pF		
			Min	Typ	Max	Min	Max	Min	Max	
t <sub>PLH</sub>	Propagation Delay, nA to nY	F125	1.5	4.0	6.0	1.5	7.5	1.5	6.5	ns
t <sub>PHL</sub>			3.0	5.5	7.5	3.0	9.0	3.0	8.0	
t <sub>PZH</sub>	Output Enable Time to HIGH and LOW level		3.0	5.5	7.5	3.0	9.5	3.0	8.5	ns
t <sub>PZL</sub>			3.0	6.0	8.0	3.0	10	3.0	9.0	
t <sub>PHZ</sub>	Output Disable Time from HIGH and LOW level		1.5	3.5	5.0	1.5	7.0	1.5	6.0	ns
t <sub>PLZ</sub>			1.5	3.5	5.5	1.5	7.0	1.5	6.0	
t <sub>PLH</sub>	Propagation Delay, nA to nY	F126	1.5	4.0	6.5	1.5	8.0	1.5	7.0	ns
t <sub>PHL</sub>			3.0	5.5	8.0	3.0	9.5	3.0	8.5	
t <sub>PZH</sub>	Output Enable Time to HIGH and LOW level		3.0	6.0	7.5	3.0	9.5	3.0	8.5	ns
t <sub>PZL</sub>			3.0	6.0	8.0	3.0	9.5	3.0	8.5	
t <sub>PHZ</sub>	Output Disable Time from HIGH and LOW level		2.0	4.5	6.5	2.0	8.5	2.0	7.5	ns
t <sub>PLZ</sub>			3.0	5.5	7.5	3.0	9.0	3.0	8.0	

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