

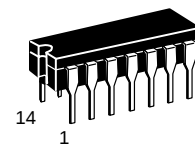
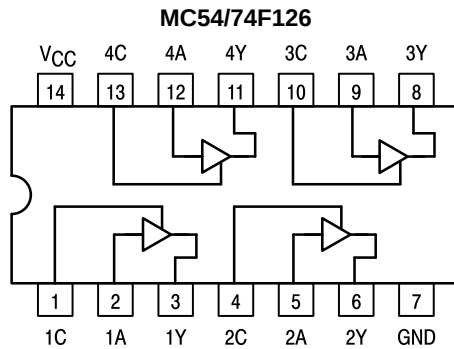
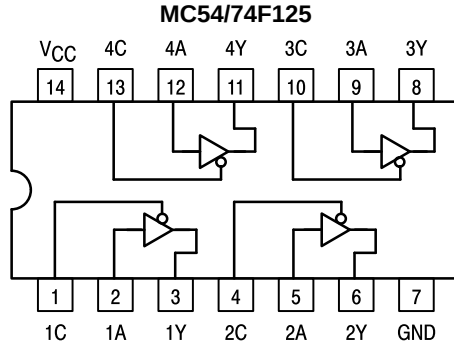


MC54/74F125 MC54/74F126

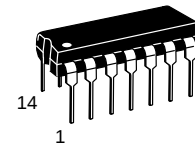
3-STATE QUAD BUFFERS

- High Impedance NPN Base Inputs for Reduced Loading

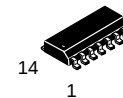
QUAD BUFFERS, 3-STATE
FAST™ SHOTTKY TTL



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_{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 74			-12 -15	mA
I_{OL}	Output Current — Low	54 74			48 64	mA

MC54/74F125 • MC54/74F126

Function Table MC54/74F125

Inputs		Output
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_{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	$I_{IN} = -18 \text{ mA}$	$V_{CC} = \text{MIN}$
V_{OH}	Output HIGH Voltage	54,74	2.4	3.4		V	$I_{OH} = -3.0 \text{ mA}$	$V_{CC} = 4.50 \text{ V}$
		74	2.7	3.4		V	$I_{OH} = -3.0 \text{ mA}$	$V_{CC} = 4.75 \text{ V}$
		54	2.0			V	$I_{OH} = -12 \text{ mA}$	$V_{CC} = 4.50 \text{ V}$
		74	2.0			V	$I_{OH} = -15 \text{ mA}$	
V_{OL}	Output LOW Voltage	54			0.55	V	$I_{OL} = 48 \text{ mA}$	$V_{CC} = \text{MAX}$
		74			0.55	V	$I_{OL} = 64 \text{ mA}$	
I_{OZH}	Output Off Current HIGH				50	μA	$V_{OUT} = 2.7 \text{ V}$	$V_{CC} = \text{MAX}$
I_{OZL}	Output Off Current LOW				-50	μA	$V_{OUT} = 0.5 \text{ V}$	$V_{CC} = \text{MAX}$
I_{IH}	Input HIGH Current				20	μA	$V_{IN} = 2.7 \text{ V}$	$V_{CC} = \text{MAX}$
					100		$V_{IN} = 7.0 \text{ V}$	$V_{CC} = 0 \text{ V}$
I_{IL}	Input LOW Current				-20	μA	$V_{IN} = 0.5 \text{ V}$	$V_{CC} = \text{MAX}$
I_{OS}	Output Short Circuit Current Note 2		-100		-225	mA	$V_{OUT} = \text{GND}$	$V_{CC} = \text{MAX}$
I_{CC}	F125	I_{CCH}			24	mA	$V_{CC} = \text{MAX}$	
		I_{CCL}			40			
		I_{CCZ}			35			
	F126	I_{CCH}			30			
		I_{CCL}			48			
		I_{CCZ}			39			

NOTES:

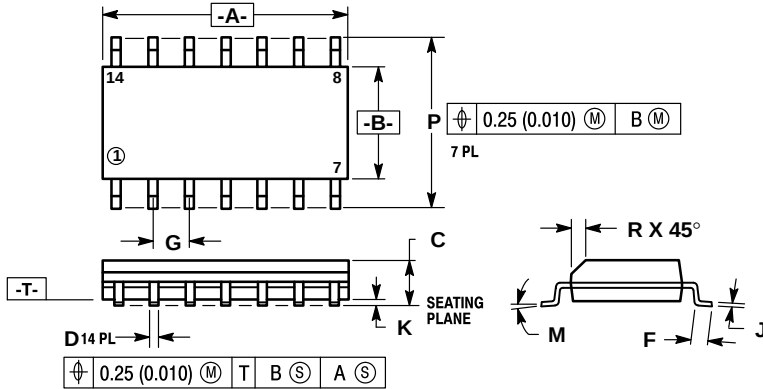
- For conditions shown as MIN or MAX, use the appropriate value specified under recommended operating conditions for the applicable device type.
- Not more than one output should be shorted at a time, nor for more than 1 second.

MC54/74F125 • MC54/74F126

AC ELECTRICAL CHARACTERISTICS

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

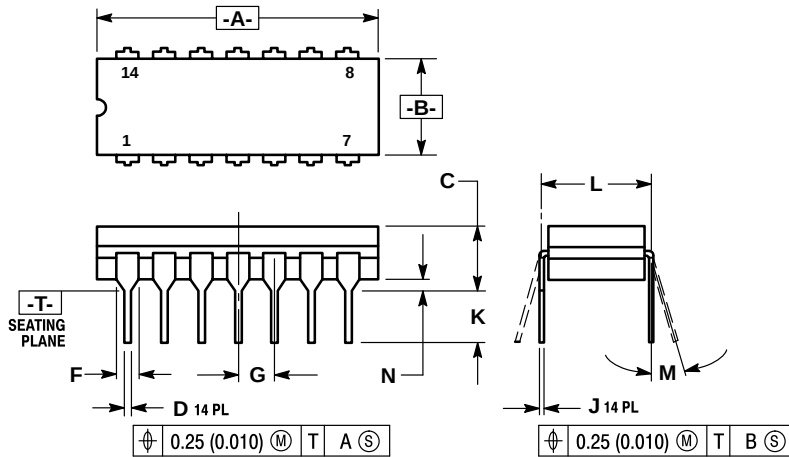
Case 751A-02 D Suffix
14-Pin Plastic
SO-14



- NOTES:
- DIMENSIONS "A" AND "B" ARE DATUMS AND "T" IS A DATUM SURFACE.
 - DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
 - CONTROLLING DIMENSION: MILLIMETER.
 - DIMENSION A AND B DO NOT INCLUDE MOLD PROTRUSION.
 - MAXIMUM MOLD PROTRUSION 0.15 (0.006) PER SIDE.
 - 751A-01 IS OBSOLETE, NEW STANDARD 751A-02.

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	8.55	8.75	0.337	0.344
B	3.80	4.00	0.150	0.157
C	1.35	1.75	0.054	0.068
D	0.35	0.49	0.014	0.019
F	0.40	1.25	0.016	0.049
G	1.27 BSC		0.050 BSC	
J	0.19	0.25	0.008	0.009
K	0.10	0.25	0.004	0.009
M	0°	7°	0°	7°
P	5.80	6.20	0.229	0.244
R	0.25	0.50	0.010	0.019

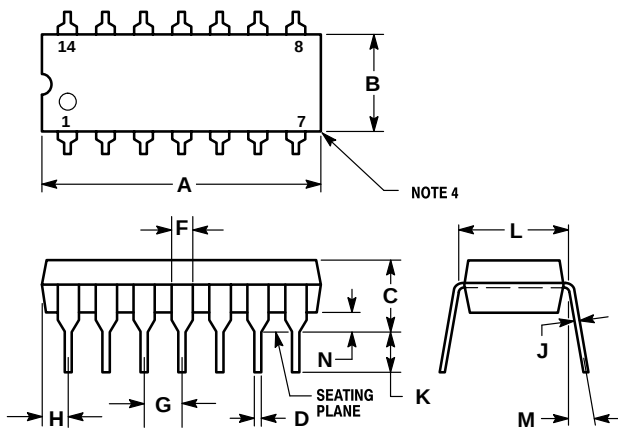
Case 632-08 J Suffix
14-Pin Ceramic Dual In-Line



- NOTES:
- DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
 - CONTROLLING DIMENSION: INCH.
 - DIMENSION L TO CENTER OF LEAD WHEN FORMED PARALLEL.
 - DIM F MAY NARROW TO 0.76 (0.030) WHERE THE LEAD ENTERS THE CERAMIC BODY.
 - 632-01 THRU -07 OBSOLETE, NEW STANDARD 632-08.

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	19.05	19.94	0.750	0.785
B	6.23	7.11	0.245	0.280
C	3.94	5.08	0.155	0.200
D	0.39	0.50	0.015	0.020
F	1.40	1.65	0.055	0.065
G	2.54 BSC		0.100 BSC	
J	0.21	0.38	0.008	0.015
K	3.18	4.31	0.125	0.170
L	7.62 BSC		0.300 BSC	
M	0°	15°	0°	15°
N	0.51	1.01	0.020	0.040

Case 646-06 N Suffix
14-Pin Plastic



- NOTES:
- LEADS WITHIN 0.13 mm (0.005) RADIUS OF TRUE POSITION AT SEATING PLANE AT MAXIMUM MATERIAL CONDITION.
 - DIMENSION "L" TO CENTER OF LEADS WHEN FORMED PARALLEL.
 - DIMENSION "B" DOES NOT INCLUDE MOLD FLASH.
 - ROUNDED CORNERS OPTIONAL.
 - 646-05 OBSOLETE, NEW STANDARD 646-06.

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	18.16	19.56	0.715	0.770
B	6.10	6.60	0.240	0.260
C	3.69	4.69	0.145	0.185
D	0.38	0.53	0.015	0.021
F	1.02	1.78	0.040	0.070
G	2.54 BSC		0.100 BSC	
H	1.32	2.41	0.052	0.095
J	0.20	0.38	0.008	0.015
K	2.92	3.43	0.115	0.135
L	7.62 BSC		0.300 BSC	
M	0°	10°	0°	10°
N	0.39	1.01	0.015	0.039

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