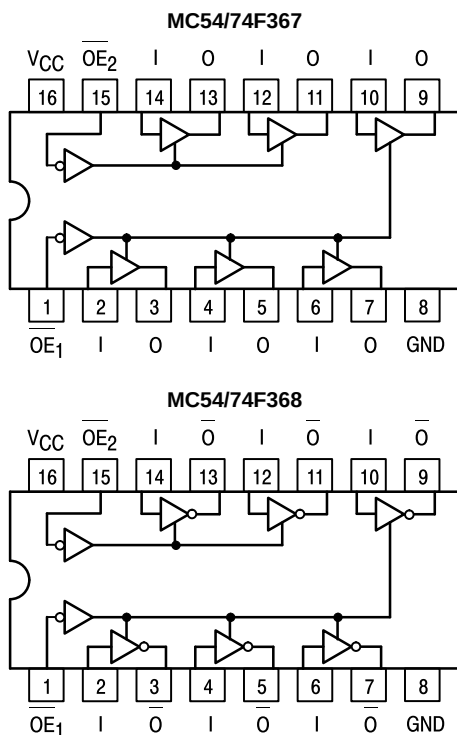




HEX BUFFER/DRIVER **4-BIT PLUS 2-BIT,** **NONINVERTING AND INVERTING,** **3-STATE**

CONNECTION DIAGRAMS



FUNCTION TABLE

Inputs		Outputs	
OE	I	O	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

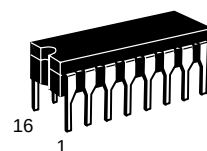
GUARANTEED OPERATING RANGES

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	

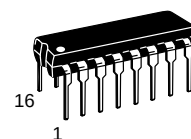
MC54/74F367 **MC54/74F368**

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

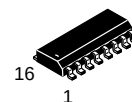
F368
HEX BUFFER/DRIVER
4-BIT PLUS 2-BIT,
INVERTING 3-STATE
FAST™ SCHOTTKY TTL



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 _{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		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}	F367	I _{CC} H			35	mA	V _{CC} = MAX	
		I _{CC} L			62			
		I _{CC} Z			48			
	F368	I _{CC} H			25			
		I _{CC} L			62			
		I _{CC} Z			48			

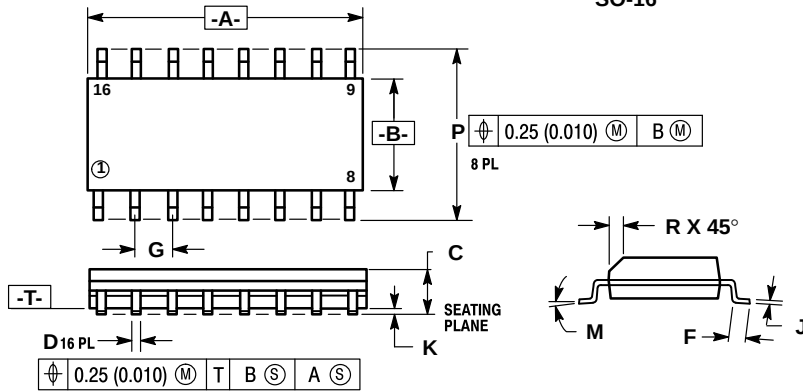
NOTES:

- 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 _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 F367	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 F368	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	2.5	5.5	7.5	2.5	9.5	2.5	8.5	ns
t _{PZL}	to HIGH and LOW Level	3.0	6.5	8.5	3.0	10	3.0	9.0	
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	

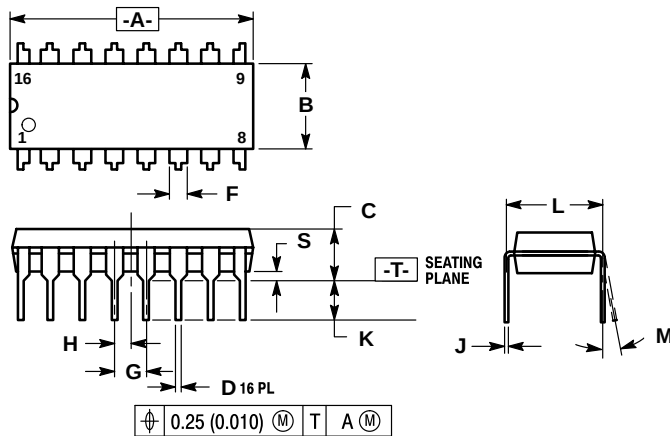
Case 751B-03 D Suffix
16-Pin Plastic
SO-16



- NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
 2. CONTROLLING DIMENSION: MILLIMETER.
 3. DIMENSION A AND B DO NOT INCLUDE MOLD PROTRUSION.
 4. MAXIMUM MOLD PROTRUSION 0.15 (0.006) PER SIDE.
 5. 751B-01 IS OBSOLETE, NEW STANDARD 751B-03.

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	9.80	10.00	0.386	0.393
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

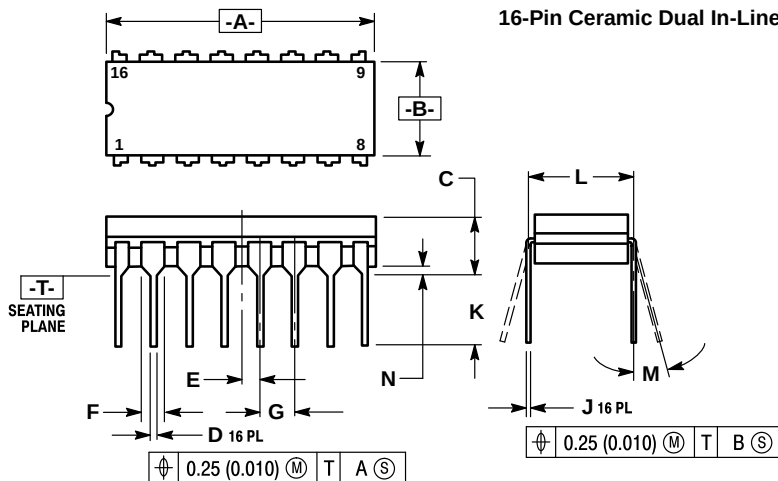
Case 648-08 N Suffix
16-Pin Plastic



- NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
 2. CONTROLLING DIMENSION: INCH.
 3. DIMENSION "L" TO CENTER OF LEADS WHEN FORMED PARALLEL.
 4. DIMENSION "B" DOES NOT INCLUDE MOLD FLASH.
 5. ROUNDED CORNERS OPTIONAL.
 6. 648-01 THRU -07 OBSOLETE, NEW STANDARD 648-08.

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	18.80	19.55	0.740	0.770
B	6.35	6.85	0.250	0.270
C	3.69	4.44	0.145	0.175
D	0.39	0.53	0.015	0.021
F	1.02	1.77	0.040	0.070
G	2.54 BSC		0.100 BSC	
H	1.27 BSC		0.050 BSC	
J	0.21	0.38	0.008	0.015
K	2.80	3.30	0.110	0.130
L	7.50	7.74	0.295	0.305
M	0°	10°	0°	10°
S	0.51	1.01	0.020	0.040

Case 620-09 J Suffix
16-Pin Ceramic Dual In-Line



- NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
 2. CONTROLLING DIMENSION: INCH.
 3. DIMENSION L TO CENTER OF LEAD WHEN FORMED PARALLEL.
 4. DIM F MAY NARROW TO 0.76 (0.030) WHERE THE LEAD ENTERS THE CERAMIC BODY.
 5. 620-01 THRU -08 OBSOLETE, NEW STANDARD 620-09.

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	19.05	19.55	0.750	0.770
B	6.10	7.36	0.240	0.290
C	—	4.19	—	0.165
D	0.39	0.53	0.015	0.021
E	1.27 BSC		0.050 BSC	
F	1.40	1.77	0.055	0.070
G	2.54 BSC		0.100 BSC	
J	0.23	0.27	0.009	0.011
K	—	5.08	—	0.200
L	7.62 BSC		0.300 BSC	
M	0°	15°	0°	15°
N	0.39	0.88	0.015	0.035

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