MOTOROLA

Hex Inverter
Schmitt Trigger

ELECTRICALLY TESTED PER:
5962-8875201

MPO
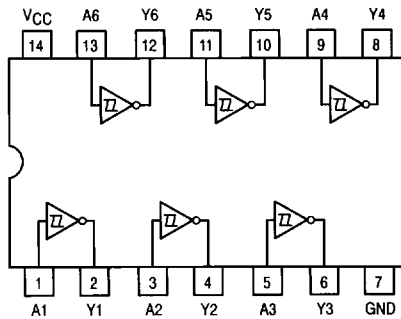
AVAILABLE AS:

1) JAN: N/A
2) SMD: 5962-8875201
3) 883: 54F14/BXAJC

X = CASE OUTLINE AS FOLLOWS:
PACKAGE: CERDIP: C
CERFLAT: D
LCC: 2

THE LETTER "M" APPEARS
BEFORE THE / ON LCC.

4

LOGIC DIAGRAM

LOGIC SYMBOL

PIN ASSIGNMENTS

FUNCT.	DIL 632-08	FLATS 717-04	LCC 756A-02	BURN-IN (COND. A)
A1	1	1	2	V_{CC}
Y1	2	2	3	OPEN
A2	3	3	4	V_{CC}
Y2	4	4	6	OPEN
A3	5	5	8	V_{CC}
Y3	6	6	9	OPEN
GND	7	7	10	GND
Y4	8	8	12	OPEN
A4	9	9	13	V_{CC}
Y5	10	10	14	OPEN
A5	11	11	16	V_{CC}
Y6	12	12	18	OPEN
A6	13	13	19	V_{CC}
V_{CC}	14	14	20	V_{CC}

BURN-IN CONDITIONS:
V_{CC} = 5.0 V MIN/6.0 V MAX
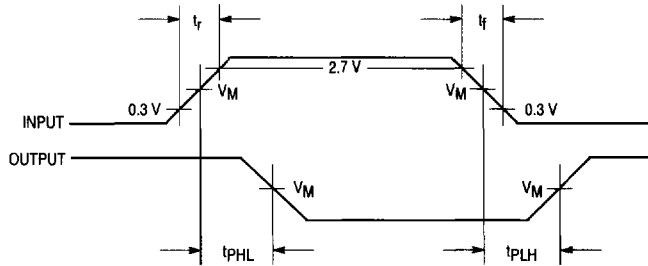
TRUTH TABLE

A	$\bar{Y}$
0	1
1	0

AC TEST CIRCUIT
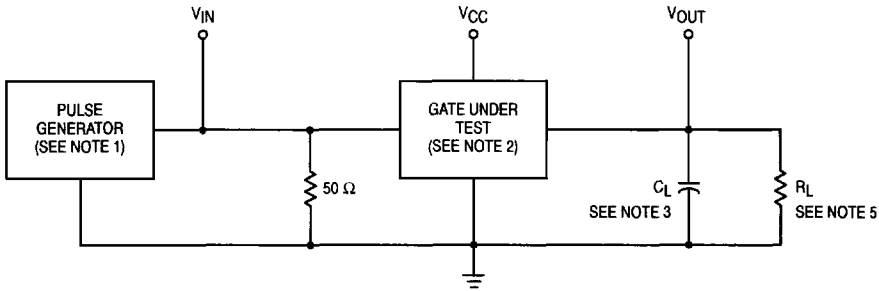
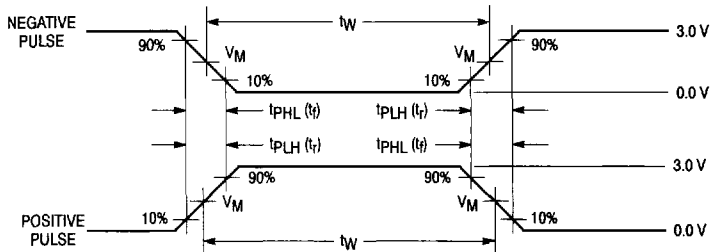
WAVEFORM 1. FOR INVERTING OUTPUTS

NOTE: For all waveforms, V_M = 1.5 V

WAVEFORM 2

NOTE: For all waveforms, V_M = 1.5 V

NOTES:
1. Pulse generator has the following characteristics:
   V_{IN} = 3.0 V, t_{PLH} = t_{PHL} ≤ 2.5 ns, PRR = 1.0 MHz, t_W = 500 ns, and Z_{OUT} ≈ 50 Ω.
2. Terminal conditions (pins not designated may be high ≥ 1.5 V, low ≤ 1.1 V, or open).
3. C_L = 50 pF ± 10%, including scope probe, wiring and stray capacitance, without package in test fixture.
4. Voltage measurements are to be made with respect to network ground terminal.
5. R_L = 500 Ω ± 5.0%.
6. R_T ≈ 50 Ω = Z_{OUT} of pulse generator.

Symbol	Parameter	Limits						Unit	Test Condition (Unless Otherwise Specified)
	Static Parameters:	+ 25°C		+ 125°C		− 55°C			
		Subgroup 1		Subgroup 2		Subgroup 3			
		Min	Max	Min	Max	Min	Max		
V_{OH1}	Logical "1" Output Voltage	2.5		2.5		2.5		V	$V_{CC} = 4.5$ V, $I_{OH} = -1.0$ mA. $V_{IL} = 0.7$ V.
V_{OH2}	Logical "1" Output Voltage	2.5		2.5		2.5		V	$V_{CC} = 5.0$ V, $I_{OH} = -1.0$ mA, V_{IN} = (See Note 1).
V_{OL1}	Logical "0" Output Voltage		0.5		0.5		0.5	V	$V_{CC} = 4.5$ V, $I_{OL} = 20$ mA, $V_{IH} = 2.0$ V.
V_{OL2}	Logical "0" Output Voltage		0.5		0.5		0.5	V	$V_{CC} = 5.0$ V, $I_{OL} = 20$ mA, V_{IN} = (See Note 2).
V_{IC}	Input Clamping Voltage		−1.2					V	$V_{CC} = 4.5$ V, $I_{IN} = -18$ mA.
I_{IH}	Logical "1" Input Current		20		20		20	μA	$V_{CC} = 5.5$ V, $V_{IN} = 2.7$ V, other inputs are open.
I_{IHH}	Logical "1" Input Current		100		100		100	μA	$V_{CC} = 5.5$ V, $V_{IN} = 7.0$ V, other inputs are open.
I_{IL}	Logical "0" Input Current	−0.03	−0.6	−0.03	−0.6	−0.03	−0.6	mA	$V_{CC} = 5.5$ V, $V_{IN} = 0.5$ V.
I_{OS}	Output Short Circuit Current	−60	−150	−60	−150	−60	−150	mA	$V_{CC} = 5.5$ V, $V_{IN} = $ GND, $V_{OUT} = $ GND.
I_{CCH}	Power Supply Current		22		22		22	mA	$V_{CC} = 5.5$ V, $V_{IN} = $ GND.
I_{CCL}	Power Supply Current		32		32		32	mA	$V_{CC} = 5.5$ V, $V_{IN} = 5.5$ V.
V_{IH}	Logical "1" Input Voltage	2.0		2.0		2.0		V	$V_{CC} = 4.5$ V.
V_{IL}	Logical "0" Input Voltage		0.5		0.5		0.5	V	$V_{CC} = 4.5$ V.
	Functional Tests	Subgroup 7		Subgroup 8A		Subgroup 8B			per Truth Table with $V_{CC} = 4.5$ V, (Repeat at), $V_{CC} = 5.5$ V, $V_{INL} = 0.5$ V, and $V_{INH} = 2.5$ V.

Symbol	Parameter	Limits						Unit	Test Condition (Unless Otherwise Specified)
	Switching Parameters:	+ 25°C		+ 125°C		− 55°C			
		Subgroup 9		Subgroup 10		Subgroup 11			
		Min	Max	Min	Max	Min	Max		
t_{PHL}	Propagation Delay /Data-Output Output High-Low	3.5	7.5	3.0	10	3.0	10	ns	$V_{CC} = 5.0$ V, $C_L = 50$ pF, $R_L = 500$ Ω.
t_{PLH}	Propagation Delay /Data-Output Output Low-High	2.5	6.5	2.0	13	2.0	13	ns	$V_{CC} = 5.0$ V, $C_L = 50$ pF, $R_L = 500$ Ω.

NOTES:
1. Momentary 0.5 V, then 1.5 V without overshoot during test. (0.5 V–1.5 V).
2. Momentary 2.0 V, then 1.1 V without undershoot during test. (2.0 V–1.1 V).