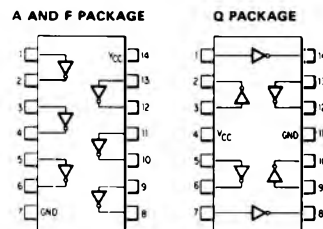




# 8890 / 8891 HEX INVERTER



## DESCRIPTION

The 8890 HEX INVERTER provides high switching speed while maintaining high fan-out and noise margin.

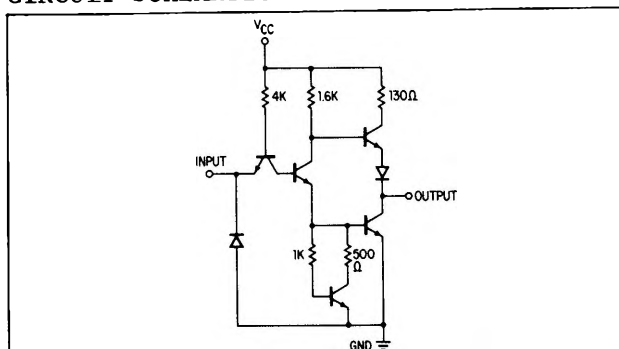
The Totem-Pole output structure provides extremely low output impedance which provides high AC noise immunity. The saturating output switching transistor provides a low impedance driving source in the "0" output state enhancing turn-on times and providing high fan-out capability.

Output short-circuit protection is provided by a current limiting resistor.

The 8891 HEX INVERTER provides high switching speed while maintaining high fan-out and noise margin.

The bare collector output allows collector logic (WIRED-AND) to be easily implemented.

## CIRCUIT SCHEMATIC



## ELECTRICAL CHARACTERISTICS (NOTES: 1,2,3,4,5, & 10)

ACCEPTANCE TEST SUBGROUP	CHARACTERISTICS	LIMITS				TEST CONDITIONS					NOTES
						TEMP °C		V <sub>CC</sub> (Volts)	DRIVEN INPUT	OUTPUTS	
						S	N				
A-5	"1" Output Voltage	2.6	-	-	V	-55	0	4.75	0.8V	500μA	6
A-3		2.8	-	-	V	+25	+25	5.00	0.8V	500μA	6
A-4		2.6	-	-	V	+125	+75	4.75	0.8V	500μA	6
A-5	"0" Output Voltage	-	-	0.4	V	-55	0	4.75	2.0V	16mA	7
A-3		-	-	0.4	V	+25	+25	5.00	2.0V	16mA	7
A-4		-	-	0.4	V	+125	+75	4.75	2.0V	16mA	7
C-1	"0" Input Current	-0.1	-	-1.6	mA	-55	0	5.25	0.4V	-	-
A-3		-0.1	-	-1.6	mA	+25	+25	5.25	0.4V	-	-
C-1		-0.1	-	-1.6	mA	+125	+75	5.25	0.4V	-	-
A-4	"1" Input Current	-	-	25	μA	+125	+75	5.00	4.5V	-	-
A-6	Turn-On Delay	-	-	15	ns	+25	+25	5.00	-	DCFO = 20	8, 13
A-6	Turn-Off Delay	-	-	22	ns	+25	+25	5.00	-	DCFO = 20	8, 13
C-2	Output Fall Time	-	-	50	ns	-55	0	4.75	-	ACFO = 6	9, 13
A-2	Power/Current Consumption Per Inverter: Output "0"	-	-	31/6	mW/mA	+25	+25	5.25	-	-	-
A-2	Per Inverter: Output "1"	-	-	9/1.7	mW/mA	+25	+25	5.25	0V	-	-
A-2	Input Latch Voltage	6.0	-	-	V	+25	+25	5.00	10mA	-	11
A-2	Output Short Circuit Current	-20	-	-70	mA	+25	+25	5.00	0V	0V	-
A-2	Input Clamp Voltage	-	-	-1.5	V	+25	+25	5.00	-12mA	-	-

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A-4	"1" Output Leakage Current	-	-	250	μA	+125	+75	5.00	0.8V	-	12
A-5	"0" Output Voltage	-	-	0.4	V	-55	0	4.75	2.0V	16mA	7
A-3		-	-	0.4	V	+25	+25	5.00	2.0V	16mA	7
A-4		-	-	0.4	V	+125	+75	4.75	2.0V	16mA	7
C-1	"0" Input Current	-0.1	-	-1.6	mA	-55	0	5.25	0.4V	-	-
A-3		-0.1	-	-1.6	mA	+25	+25	5.25	0.4V	-	-
C-1		-0.1	-	-1.6	mA	+125	+75	5.25	0.4V	-	-
A-4	"1" Input Current	-	-	25	μA	+125	+75	5.00	4.5V	-	-
A-6	Turn-On Delay	-	-	15	ns	+25	+25	5.00	-	DCFO = 20	8, 13
A-6	Turn-Off Delay	-	-	45	ns	+25	+25	5.00	-	DCFO = 20	8, 13
A-2	Power Current Consumption Per Inverter: Output "0"	-	-	31/6	mW/mA	+25	+25	5.25	-	-	-
A-2	Per Inverter: Output "1"	-	-	9/1.7	mW/mA	+25	+25	5.25	0V	-	-
A-2	Input Latch Voltage	6.0	-	-	V	+25	+25	5.00	10mA	-	11
A-2	Input Clamp Voltage	-	-	-1.5	V	+25	+25	5.00	-12mA	-	-