



Memory/Clock Drivers

MH0007/MH0007C dc coupled MOS clock driver

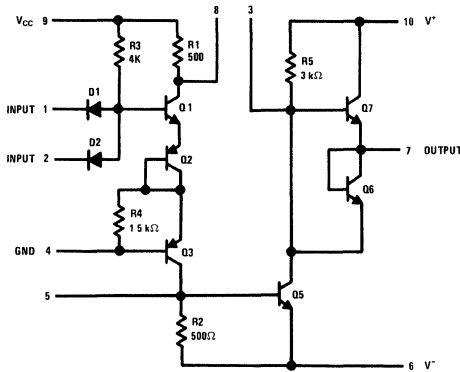
general description

The MH0007 is a voltage translator and power booster designed for interfacing between conventional TTL or DTL voltage levels and those levels associated with inputs or clocks of MOS FET type devices. The design allows the user a wide latitude in selection of supply voltages, and is especially useful in normally "off" applications, since power dissipation is typically only 5 milliwatts in the "off" state.

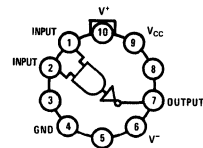
features

- 30 volts (max) output swing
- Standard 5V power supply
- Peak currents in excess of ± 300 mA available
- Compatible with all MOS devices
- High speed: 5 MHz with nominal load
- External trimming possible for increased performance

schematic and connection diagram



10 Pin TO-100 Package

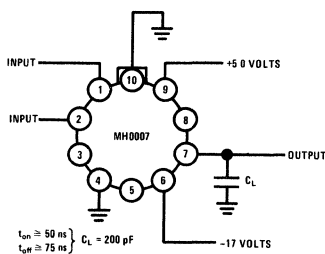


TOP VIEW

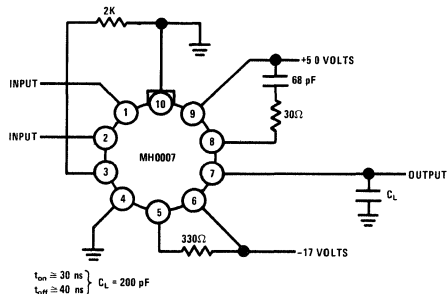
Order Number MH0007H
or MH0007CH
See Package 13

typical applications

Switching Time Test Configuration



High Speed Operation



absolute maximum ratings

V_{CC} Supply Voltage	8V
V^- Supply Voltage	-40V
V^+ Supply Voltage	+28V
$(V^+ - V^-)$ Voltage Differential	30V
Input Voltage	5.5V
Power Dissipation ($T_A = 25^\circ\text{C}$)	800 mW
Peak Output Current	1500 mA
Storage Temperature Range	-65°C to +150°C
Operating Temperature Range MH0007	-55°C to +125°C
MH0007C	0°C to +85°C
Lead Temperature (Soldering, 10 sec)	300°C

electrical characteristics (Note 1)

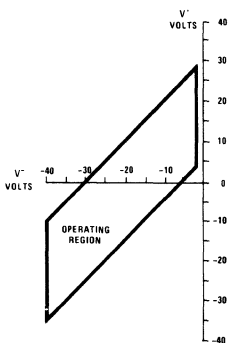
PARAMETER	CONDITIONS	MIN	TYP (Note 2)	MAX	UNITS
Logical "1" Input Voltage	$V_{CC} = 4.5\text{V}$	2.2			V
Logical "0" Input Voltage	$V_{CC} = 4.5\text{V}$			0.8	V
Logical "1" Input Current	$V_{CC} = 5.5\text{V}, V_{IN} = 5.5\text{V}$			100	μA
Logical "0" Input Current	$V_{CC} = 5.5\text{V}, V_{IN} = 0.4\text{V}$		1.0	1.5	mA
Logical "1" Output Voltage	$V_{CC} = 5.5\text{V}, I_{OUT} = 30\text{ mA}, V_{IN} = 0.8\text{V}$ $V_{CC} = 5.5\text{V}, I_{OUT} = 1\text{ mA}, V_{IN} = 0.8\text{V}$	$V^+ - 4.0$ $V^+ - 2.0$			V V
Logical "0" Output Voltage	$V_{CC} = 4.5\text{V}, I_{OUT} = 30\text{ mA}, V_{IN} = 2.2\text{V}$			$V^- + 2.0$	V
Transition Time to Logical "0" Output	$C_L = 200\text{ pF}$ (Note 3)		50		ns
Transition Time to Logical "1" Output	$C_L = 200\text{ pF}$ (Note 3)		75		ns

Note 1: Min/max limits apply across the guaranteed range of -55°C to +125°C for the MH0007, and from 0°C to +85°C for the MH0007C, for all allowable values of V^- and V^+ .

Note 2: All typical values measured at $T_A = 25^\circ\text{C}$ with $V_{CC} = 5.0$ volts, $V^- = -25$ volts, $V^+ = 0$ volts.

Note 3: Transition time measured from time $V_{IN} = 50\%$ value until V_{OUT} has reached 80% of final value.

Allowable Values for V^- and V^+



Maximum Power Dissipation

