

# MCH1002P

## DUAL POWER DRIVER

### Advance Information

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... designed for magnetic relay and lamp-driving applications.

- MHTL Dual 4-Input Line Driver (MC662) for the Input Logic
- Output Current  $-I_{OL} = 0.5 \text{ Adc}$  (Max)
- Output Voltage  $-BV_{CEO} = 40 \text{ Vdc}$

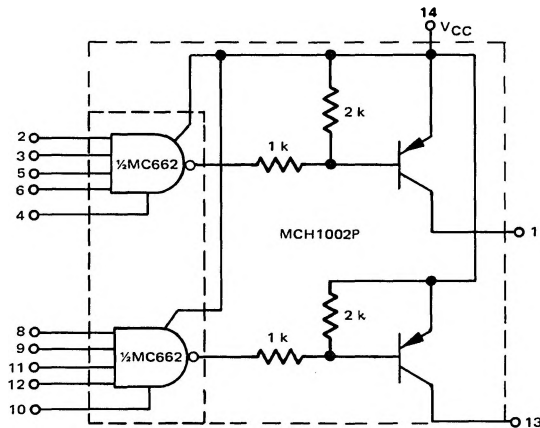
#### DUAL POWER DRIVER HYBRID MICROCIRCUIT

#### MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

Rating	Symbol	Value	Unit
Power Supply Voltage	$V_{CC}$	18	Vdc
Input Voltage	$V_{in}$	-1.0/+18	Vdc
Output Current	$I_{OL}$	0.5	Adc
Output Voltage	$BV_{CEO}$	40	Vdc
Input Current	$I_{in}$	30	mAdc
Power Dissipation Derate above $T_A = 25^\circ\text{C}$	$P_D$	1.0 10	Watts mW/ $^\circ\text{C}$
Operating Temperature Range	$T_A$	-30 to +75	$^\circ\text{C}$
Operating and Storage Junction Temperature Range	$T_J, T_{stg}$	-55 to +125	$^\circ\text{C}$



PLASTIC PACKAGE  
CASE 625



# MCH1002P (continued)

## ELECTRICAL CHARACTERISTICS (Each Driver, $T_A = 25^{\circ}\text{C}$ unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
<b>Input</b>					
Reverse Current (Each Input) ( $V_R = 16 \text{ Vdc}$ , $V_{CC} = 14 \text{ Vdc}$ )	$I_R$	—	—	2.0	$\mu\text{Adc}$
Forward Current (Each Input) ( $V_F = 1.5 \text{ V}$ , $V_{CCH} = 16 \text{ Vdc}$ )	$I_F$	—	—	1.2	$\text{mAdc}$
Power Drain Current (Total Device) ( $I_L = 0 \text{ mAdc}$ , $V_{CCH} = 16 \text{ Vdc}$ , $V_{IL} = 6.5 \text{ V}$ )	$I_{CCL}$	—	2.0	5.0	$\text{mAdc}$
Power Drain Current (Total Device) ( $I_L = 0 \text{ mAdc}$ , $V_{IH} = 8.5 \text{ V}$ , $V_{CCH} = 16 \text{ Vdc}$ )	$I_{CCH}$	—	40	55	$\text{mAdc}$
<b>Output</b>					
Output Voltage ( $V_{IH} = 8.5 \text{ V}$ , $V_{CC} = 15 \text{ V}$ , $I_L = 500 \text{ mAdc}$ )	$V_{OH}$	14.3	—	—	$\text{Vdc}$
Output Current ( $V_{IL} = 6.5 \text{ V}$ , $V_{CC} = 15 \text{ V}$ )	$I_L$	—	—	1.0	$\mu\text{Adc}$
Collector-Emitter Breakdown Voltage of the Output Transistor ( $I_C = 10 \text{ mAdc}$ )	$BV_{CEO}$	40	—	—	$\text{Vdc}$
<b>Switching Times (See Note 1)</b>					
Turn-On-Time ( $I_L = 500 \text{ mA}$ , $V_{IH} = 15 \text{ Vdc}$ , $V_{CC} = 15 \text{ Vdc}$ )	$t_{on}$	—	115	—	$\text{ns}$
Turn-Off-Time ( $V_{IL} = 0$ , $V_{CC} = 15 \text{ Vdc}$ )	$t_{off}$	—	260	—	$\text{ns}$

Note 1: Measured at 50% points.

## DEFINITIONS

$I_{CCH}$	$V_{CC}$ current drain when all inputs are high
$I_{CCL}$	$V_{CC}$ current drain when all inputs are low
$I_F$	Forward current of input diodes for unit input load
$I_L$	Test current flowing into output pin when input is low
$I_R$	Reverse current of input diodes with $V_R$ applied
$t_{off}$	Turn-off delay time
$t_{on}$	Turn-on delay time
$V_{CC}$	Device power supply voltage
$V_F$	Input voltage when measuring $I_F$
$V_{IH}$	Threshold voltage for high input voltage state
$V_{IL}$	Threshold voltage for low input voltage state
$V_{OH}$	Output high voltage state with $I_{OH}$ flowing out of pin
$V_R$	Reverse voltage for input diode leakage test
$V_{CCL}$	Low power supply voltage
$V_{CCH}$	High power supply voltage