

**MOTOROLA  
SEMICONDUCTOR**  
TECHNICAL DATA

**DUAL PERIPHERAL-HIGH-VOLTAGE  
POSITIVE "NAND" DRIVER**

The dual driver consists of a pair of PNP buffered AND gates connected to the bases of a pair of high voltage NPN transistors. They are similar to the MC75452 drivers but with the added advantages of: 1) 70 Volt capability 2) output suppression diodes and 3) PNP buffered inputs for MOS compatibility. These features make the MC1472 ideal for mating MOS logic or microprocessors to lamps, relays, printer hammers and incandescent displays.

- 300 mA Output Capability (each transistor)
- 70 Vdc Breakdown Voltage
- Internal Output Clamp Diodes
- Low Input Loading for MOS Compatibility (PNP buffered)

**MAXIMUM RATINGS (T<sub>A</sub> = 25°C)**

Rating	Symbol	Value	Unit
Supply Voltage	V <sub>CC</sub>	7.0	V
Input Voltage	V <sub>in</sub>	5.5	V
Output Voltage	V <sub>out</sub>	80	V
Clamp Voltage	V <sub>C</sub>	80	V
Output Current (Continuous)	I <sub>O</sub>	300	mA
Operating Junction Temperature	T <sub>J</sub>	+ 150	°C
Storage Temperature Range	T <sub>stg</sub>	- 65 to + 150	°C

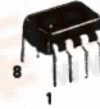
Rating	Symbol	Min	Max	Unit
Supply Voltage	V <sub>CC</sub>	4.5	5.5	Volts
Operating Ambient Temperature	T <sub>A</sub>	0	70	°C
Output Voltage	V <sub>O</sub>	V <sub>CC</sub>	70	Volts
Clamp Voltage	V <sub>C</sub>	V <sub>O</sub>	70	Volts

**ORDERING INFORMATION**

Device	Temperature Range
	0 to + 75

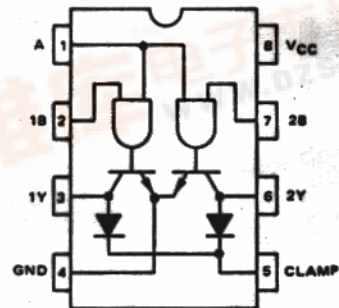
**MC1472**

**DUAL PERIPHERAL  
POSITIVE "NAND" DRIVER  
SILICON MONOLITHIC  
INTEGRATED CIRCUITS**



**P1 SUFFIX  
PLASTIC PACKAGE  
CASE 626**

**PIN CONNECTIONS**



Positive Logic: Y=AB\*

**TRUTH TABLE**

A	B	Y
L	L	H ("OFF" STATE)
L	H	
H	L	
H	H	L ("ON" STATE)



# MC1472

**ELECTRICAL CHARACTERISTICS** (Unless otherwise noted min/max limits apply across the 0°C to 70°C temperature range with  $4.5\text{ V} \leq V_{CC} \leq 5.5\text{ V}$ . All typical values are for  $T_A = 25^\circ\text{C}$ ,  $V_{CC} = 5.0\text{ Volts}$ .)

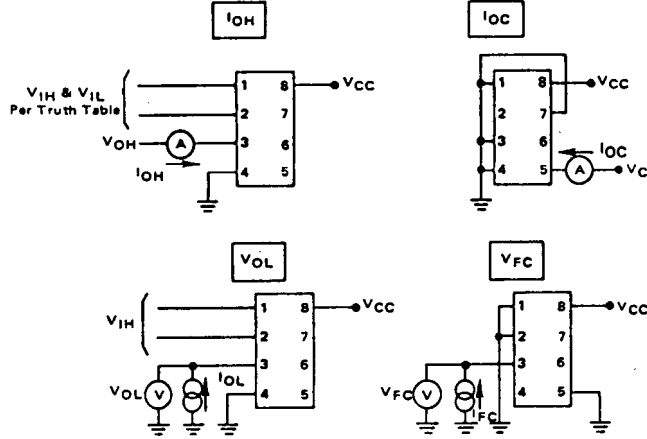
Characteristic	Symbol	Min	Typ	Max	Unit
Input Voltage — High Logic State	$V_{IH}$	2.0	—	5.5	Vdc
Input Voltage — Low Logic State	$V_{IL}$	0	—	0.8	Vdc
Input Current — Low Logic State ( $V_{IL} = 0.4\text{ V}$ ) A Input B Input	$I_{IL}$	—	—	-0.3 -0.15	mA
Input Current — High Logic State ( $V_{IH} = 2.4\text{ V}$ ) A Input B Input ( $V_{IH} = 5.5\text{ V}$ ) A Input B Input	$I_{IH}$	— — — —	— — — —	40 20 200 100	$\mu\text{A}$
Input Clamp Voltage ( $I_{CC} = -12\text{ mA}$ )	$V_{IK}$	—	—	-1.5	V
Output Leakage Current — High Logic State ( $V_O = 70\text{ V}$ , See Test Figure)	$I_{OH}$	—	—	100	$\mu\text{A}$
Output Voltage — Low Logic State ( $I_{OL} = 100\text{ mA}$ ) ( $I_{OL} = 300\text{ mA}$ )	$V_{OL}$	— —	— —	0.4 0.7	V
Output Clamp Diode Leakage Current ( $V_C = 70\text{ V}$ , See Test Figure)	$I_{OC}$	—	—	100	V
Output Clamp Forward Voltage ( $I_{FC} = 300\text{ mA}$ , See Test Figure)	$V_{FC}$	—	—	1.7	V
Power Supply Current (All Inputs at $V_{IH}$ ) (All Inputs at $V_{IL}$ )	$I_{CC}$	— —	— —	70 15	mA

NOTE: All currents into device pins are shown as positive, out of device pins as negative. All voltages referenced to ground unless otherwise noted.

**SWITCHING CHARACTERISTICS**  $V_{CC} = 5.0\text{V}$ ,  $T_A = 25^\circ\text{C}$

Characteristic	Symbol	Min	Typ	Max	Unit
Propagation Delay Time Output High to Low Output Low to High	$t_{PHL}$ $t_{PLH}$	— —	— —	1.0 0.75	$\mu\text{s}$
Output Transition Time Output High to Low Output Low to High	$t_{THL}$ $t_{TLH}$	— —	— —	0.1 0.1	$\mu\text{s}$

TEST CIRCUITS



SWITCHING TEST CIRCUIT AND WAVEFORM

