M75472L,P

DUAL PERIPHERAL DRIVER

DESCRIPTION

The M75472 is a semiconductor integrated circuit that corporates dual positive logic NAND driver which consists TTL,. large current, high voltage output. It provides an open collector output, permits a current inflow of 700 mA maximum per circuit when the output is Low, and achieves voltage application of up to 80V when the output is High. The average propagation delay time is 100ns so that high-speed switching is possible. The supply voltage is 5V±5% and the TTL logic device. The M75472 can be used for a variety of applications including relays, lamp drivers, and MOS memory driver.

FEATURES

- Large output current (I_O = 700mA)
- High output voltage (V_O = 80V)
- High-speed switching (t_{pd} = 100 ns)

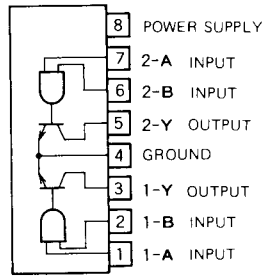
APPLICATION

General digital equipment for industrial or home use.

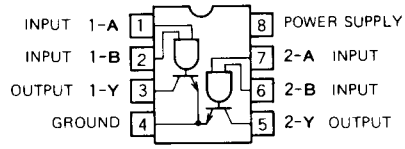
RECOMMENDED OPERATING CONDITIONS

Supply voltage range . . . . . 4.75V ~ 5.25V
Supply voltage rating 5V
Output voltage (when the output is "H") 70V
"L" output current (when V_{OL} = 0.4V) 100mA
"L" output current (when V_{OL} = 0.7V) 300mA

PIN CONFIGURATION (TOP VIEW)



Outline 8P5

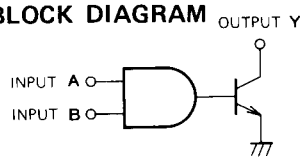


Outline 8P4

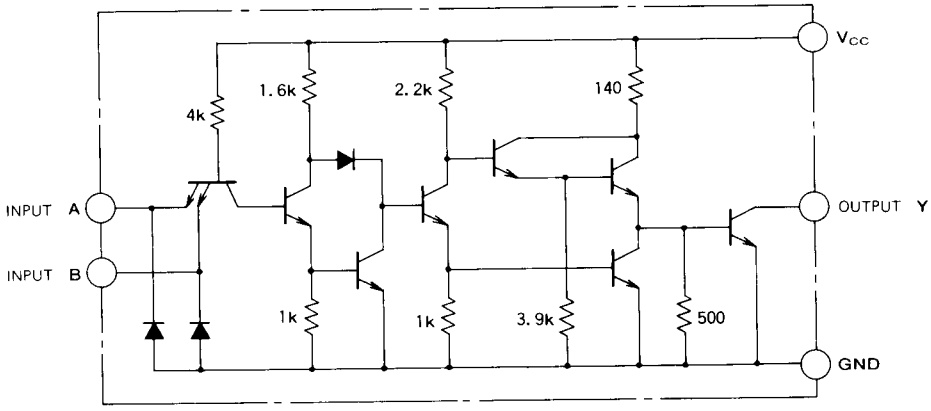
FUNCTION TABLE

A	B	Y
L	L	H
L	H	H
H	L	H
H	H	L

BLOCK DIAGRAM



EQUIVALENT CIRCUIT DIAGRAM



* TWO SETS OF THE ABOVE CIRCUIT ARE INCORPORATED.

Unit: Ω

ABSOLUTE MAXIMUM RATINGS (Ta = 0 ~ 75°C unless otherwise noted)

Symbol	Parameter	Conditions	Ratings	Unit
V_{CC}	Supply voltage		7	V
V_I	Input voltage		5.5	V
V_{IE}	Input-emitter voltage		5.5	V
V_O	Output voltage	When the output is "H"	80	V
I_O	Output current	When the output is "L"	700	mA
P_d	Power consumption	Ta ≦ 25°C	1.2(L)/1(P)	W
T_{opr}	Operating ambient temperature		0 ~ 75	°C
T_{stg}	Storage temperature		−65 ~ + 150	°C

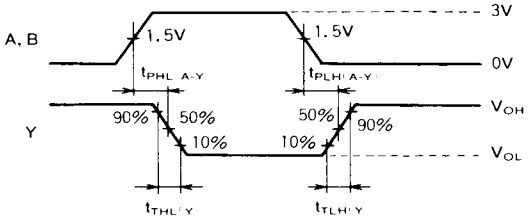
ELECTRICAL CHARACTERISTICS (Ta = 25°C unless otherwise noted)

Symbol	Parameter	Test conditions		Limits			Unit
				Min	Typ	Max	
V_{IH}	"H" input voltage			2			V
V_{IL}	"L" input voltage					0.8	V
V_{IC}	Input clamp voltage	V_{CC} = 4.75V, I_{IC} = − 12mA				−1.5	V
I_{OH}	"H" output current	V_{CC} = 4.75V, V_{IH} = 0.8V, V_{OH} = 80V				100	μA
V_{OL}	"L" output voltage	V_{CC} = 4.75V, V_{IL} = 2V	I_{OL} = 100mA		0.15	0.4	V
			I_{OL} = 300mA		0.35	0.7	
I_{IH}	"H" input current	V_{CC} = 5.25V	V_I = 2.4V			40	μA
			V_I = 4.5V			60	
I_{IL}	"L" input current	V_{CC} = 5.25V, V_I = 0.4V			−0.8	−1.6	mA
I_{CCH}	"H" output state supply current	V_{CC} = 5.25V, V_I = 0V			9.5	14	mA
I_{CCL}	"L" output state supply current	V_{CC} = 5.25V, V_I = 5V			47	71	mA

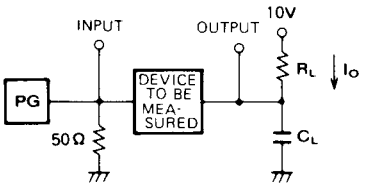
SWITCHING CHARACTERISTICS (Ta = 25°C unless otherwise noted)

Symbol	Parameter	Test conditions	Limits			Unit
			Min	Typ	Max	
t_{PLH}	"L"-"H"/"H"-"L" output propagation time	V_{CC} = 5V, I_O ≒ 200mA, C_L = 15pF, R_L = 50Ω (Note)		130	200	ns
t_{PHL}	Output Y from input A/B			90	145	ns
t_{TLH}	"L"-"H"/"H"-"L" transition time			26	80	ns
t_{THL}	Output Y			20	80	ns

TIMING DIAGRAM (Reference voltage = 1.5V)



Note: The following measurement circuit is used.



(1) PG characteristic: PRR = 1MHz, t_{PW} = 500 ns, V_P = $3V_{P-P}$, Z_O = 50Ω.
(2) The capacitance CL includes the floating capacitance of entire wiring as well as the probe input capacitance.

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