



查询"10500/BEAJC"供应商

## Quad 2-Input NOR Gate with Strobe

ELECTRICALLY TESTED PER:  
MPG 10500

The 10500 is a quad 2 input **NOR** gate. Each gate has 3 inputs, two of which are independent and one of which is tied common to all four gates.

- 40 mW Max/Gate (No Load)
- $t_{pd} = 2.0$  ns typ
- $t_r, t_f = 2.0$  ns typ (20% - 80%)

### PIN ASSIGNMENTS

FUNCTION	DIL	FLATS	LCC	BURN-IN (CONDITION C)
VCC1	1	5	2	GND
AOUT	2	6	3	51 $\Omega$ to $V_{TT}$
BOUT	3	7	4	51 $\Omega$ to $V_{TT}$
A1N	4	8	5	OPEN
A1N	5	9	7	OPEN
B1N	6	10	8	OPEN
B1N	7	11	9	OPEN
VEE	8	12	10	VEE
Common Input	9	13	12	OPEN
C1N	10	14	13	OPEN
C1N	11	15	14	OPEN
D1N	12	16	15	OPEN
D1N	13	1	17	OPEN
COUT	14	2	18	51 $\Omega$ to $V_{TT}$
DOUT	15	3	19	51 $\Omega$ to $V_{TT}$
VCC2	16	4	20	GND

### BURN - IN CONDITIONS:

$V_{TT} = -2.0$  V MAX/  $-2.2$  V MIN

$V_{EE} = -5.7$  V MAX/  $-5.2$  V MIN

## Military 10500

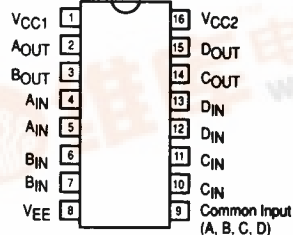


### AVAILABLE AS

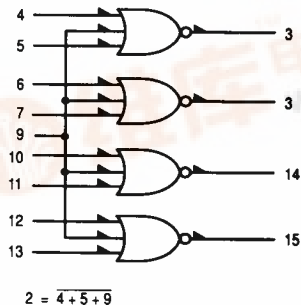
- 1) JAN: N/A
  - 2) SMD: N/A
  - 3) 883: 10500/BXAJC
- X = CASE OUTLINE AS FOLLOWS:

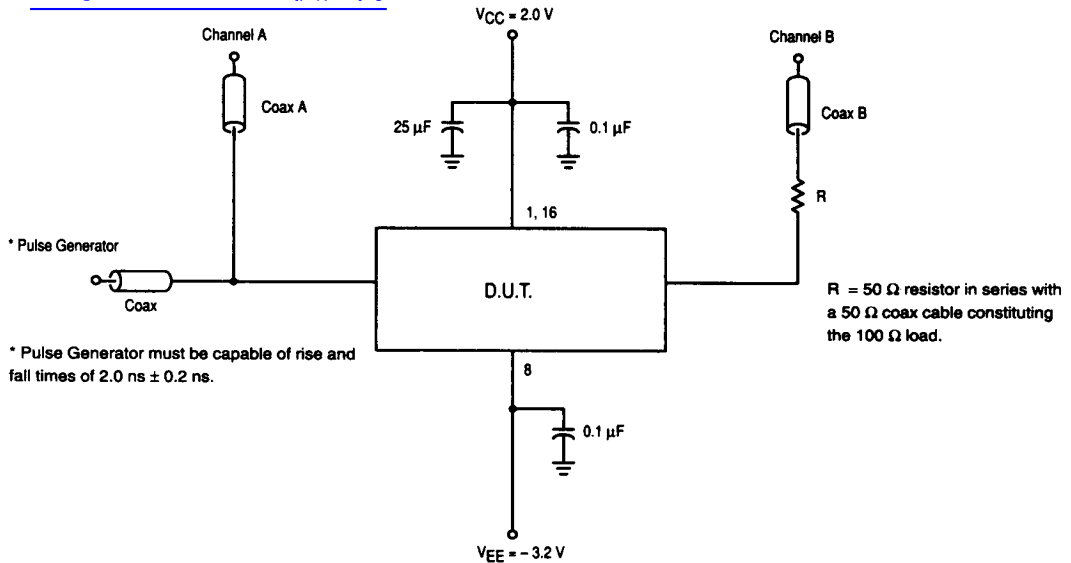
PACKAGE: CERDIP: E  
CERFLAT: F  
LCC: 2

The letter "M" appears before  
the slash on LCC.



### LOGIC DIAGRAM



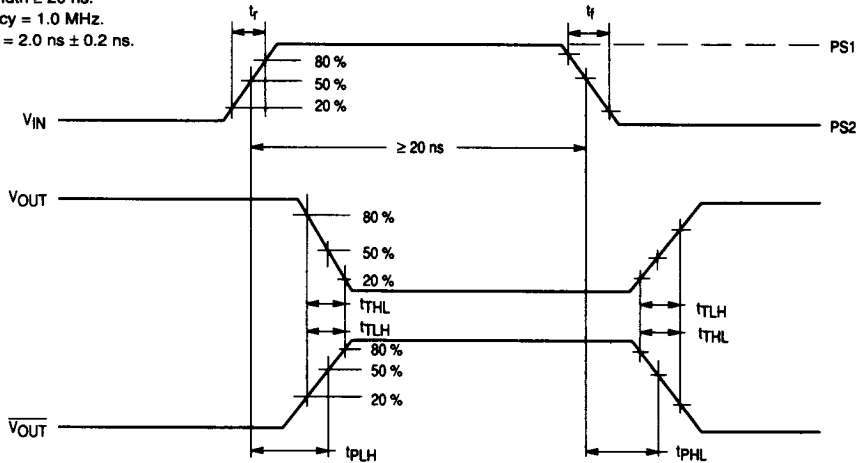
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**NOTES**

1. Length of Coax<sub>A</sub> and Coax<sub>B</sub> should be of equal length for equal time delay.
2. Unused outputs should be loaded 100  $\Omega$  to ground.
3. 2:1 divider may be used.

**NOTES**

1.  $V_{IN}$  waveform has the following characteristics:

- a) Pulse width  $\geq 20\text{ ns}$ .
- b) frequency = 1.0 MHz.
- c)  $t_r$  and  $t_f = 2.0\text{ ns} \pm 0.2\text{ ns}$ .



**Figure 1. Switching Test Circuit and Waveforms**

10500

## QUIESCENT LIMIT TABLE \*

## \* ELECTRICAL CHARACTERISTICS

Each MECL 10K series circuit has been designed to meet the dc specifications shown in the test table, after thermal equilibrium has been established. The circuit is in a test socket or mounted on a printed circuit board and transverse air flow greater than 500 linear fpm is maintained. Outputs are terminated through a 100  $\Omega$  resistor to -2.0 volts.

Test Temperature	Test Voltage Values (Volts)							
	V <sub>IH1</sub>	V <sub>IL1</sub>	V <sub>IH2</sub>	V <sub>IL2</sub>	PS1	PS2	V <sub>CC</sub>	V <sub>EE</sub>
T <sub>A</sub> = 25 °C	-0.78	-1.85	-1.105	-1.475	+1.11	+0.31	+2.0	-5.2
T <sub>A</sub> = 125 °C	-0.63	-1.82	-1.000	-1.400	+1.24	+0.345	+2.0	-5.2
T <sub>A</sub> = -55 °C	-0.88	-1.92	-1.255	-1.510	+1.03	+0.285	+2.0	-5.2

Symbol	Parameter	Limits						Units	TEST VOLTAGE APPLIED TO PINS BELOW:							
		+25 °C		+125 °C		-55 °C			Pinouts referenced are for DIL package, check Pin Assignments VCC = 0 V, Output Load = 100 Ω to – 2.0 V							
		Subgroup 1		Subgroup 2		Subgroup 3										
		Min	Max	Min	Max	Min	Max									
V <sub>OH</sub>	High Output Voltage	– 0.93	– 0.78	– 0.825	– 0.63	– 1.08	– 0.88	V		4, 5, 10, 11				8	1, 16	2, 3, 14, 15
V <sub>OL</sub>	Low Output Voltage	– 1.85	– 1.62	– 1.82	– 1.565	– 1.92	– 1.655	V	4 - 7, 9 - 13					8	1, 16	2, 3, 14, 15
V <sub>OHA</sub>	High Output Voltage	– 0.95	– 0.78	– 0.845	– 0.63	– 1.10	– 0.88	V				4 - 7, 9 - 13		8	1, 16	2, 3, 14, 15
V <sub>OLA</sub>	Low Output Voltage	– 1.85	– 1.60	– 1.82	– 1.565	– 1.92	– 1.635	V				4 - 7, 9 - 13		8	1, 16	2, 3, 14, 15
I <sub>EE</sub>	Power Supply Drain Current	– 26	– 3.0	– 29	– 3.0	– 29	– 3.0	mA						8	1, 16	8
I <sub>IH</sub>	Input Current High		245		415		415	μA	4 - 7, 9 - 13					8	1, 16	4 - 7, 10 - 13
I <sub>IH1</sub>	Input Current High		470		800		800	μA	9					8	1, 16	9
I <sub>IL</sub>	Input Current Low	0.5		0.3		0.5		μA		4 - 7, 9 - 13				8	1, 16	4 - 7, 10 - 13

# 10500 QUIESCENT LIMIT TABLE \*

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Test Temperature	Test Voltage Values (Volts)									
	V <sub>IH1</sub>	V <sub>IL1</sub>	V <sub>IH2</sub>	V <sub>IL2</sub>	P <sub>S1</sub>	P <sub>S2</sub>	V <sub>CC</sub>	V <sub>EEL</sub>	VEE	VEE
T <sub>A</sub> = 25 °C	-0.78	-1.85	-1.105	-1.475	+1.11	+0.31	+2.0	+2.0	-5.2	-5.2
T <sub>A</sub> = 125 °C	-0.63	-1.92	-1.000	-1.400	+1.24	+0.345	+2.0	+2.0	-5.2	-5.2
T <sub>A</sub> = -55 °C	-0.88	-1.92	-1.255	-1.510	+1.03	+0.285	+2.0	+2.0	-5.2	-5.2

Symbol	Parameter	Limits						Units	TEST VOLTAGE APPLIED TO PINS BELOW:							
Functional Parameters:		+ 25 °C		+ 125 °C				- 55 °C	Pinouts referenced are for DIL package, check Pin Assignments V <sub>CC</sub> = 2.0 V, Output Load = 100 Ω to GND							
				Subgroup 9		Subgroup 10										
		Min	Max	Min	Max	Min	Max	V <sub>IN</sub>								
t <sub>TLH</sub>	Rise Time	1.1	3.3	1.0	4.0	1.0	4.0	ns	4, 6	2, 3	1, 16	8	2, 3, 14, 15			
t <sub>TLH</sub>	Fall Time	1.1	3.3	1.0	4.0	1.0	4.0	ns	4, 6	2, 3	1, 16	8	2, 3, 14, 15			
t <sub>PLH</sub>	Propagation Delay Low to High	1.0	2.9	1.0	3.7	1.0	3.7	ns	10, 13	14, 15	1, 16	8	2, 3, 14			
t <sub>PHL</sub>	Propagation Delay High to Low	1.0	2.9	1.0	3.7	1.0	3.7	ns	10, 13	14, 15	1, 16	8	2, 3, 14			