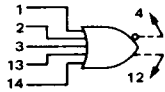


MC1025
MC1225

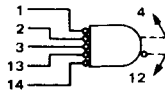
Dual expander arrays, with a 4-transistor array isolated from a 5-transistor array. The collectors and emitters from both arrays may be connected to form a 9-transistor array. With each base available, a 4, 5, or 9-input expander may be obtained.

Designed specifically for use with MC1024/MC1224 Dual 2-Input Gates.

POSITIVE LOGIC

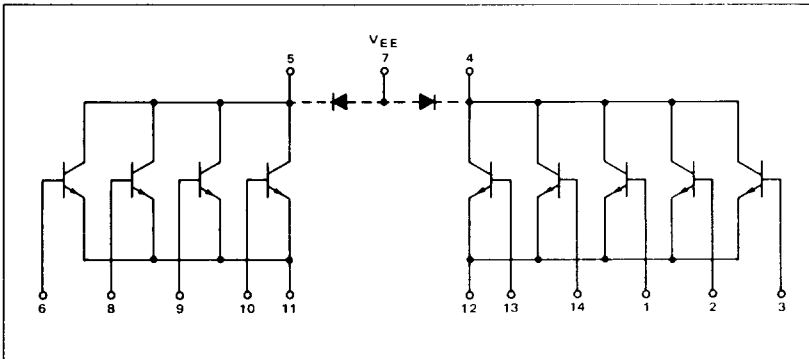


NEGATIVE LOGIC



DC Input Loading Factor = 1

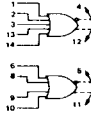
CIRCUIT SCHEMATIC



MC1025, MC1225 (continued)

ELECTRICAL CHARACTERISTICS

Test procedures are shown for only one expander.
The other expander is tested in the same manner.



@ All Temperatures

TEST VOLTAGE/CURRENT VALUES							
$V_{dc} = 1.0 \pm 0.5$							
V_{EE}	V_{CC}	V_{BB}	V_{CS}	V_{BE}	I_B	mA/μA	
-2.0	+2.0	5.2	+0.7	+0.5	-1.53		

TEST VOLTAGE/CURRENT APPLIED TO PINS LISTED BELOW:							
V_{EE}	V_{CC}	V_{BB}	V_{CS}	V_{BE}	I_B	mA/μA	
11, 12	-	1	-	-	-	4.5, 7	
2	-	2	-	-	-	-	
3	-	5	-	-	-	-	
13	-	15	-	-	-	-	
14	-	14	-	-	-	-	
-	4.5, 7	-	-	1	-	11, 12	
-	-	-	-	2	-	-	
-	-	-	-	3	-	-	
-	-	-	-	13	-	-	
-	-	-	-	14	-	-	
-	-	4.5	-	12	1	-	
-	-	-	-	-	2	-	
-	-	-	-	-	3	-	
-	-	-	-	-	13	-	
-	-	-	-	-	14	-	

Characteristic	Symbol	Pin Under Test	MC1225 Test Limits						MC1025 Test Limits							
			-55 C		+25 C		+125 C		0 C		+25 C		+75 C			
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Unit	
Base Leakage Current	I_{B1}	1	-	0.5	0.5	2.0	μA	-	0.5	0.5	2.0	μA	-	0.5	0.5	μA
Collector Leakage Current	I_{C1X}	2, 3, 13, 14	-	1.0	1.0	100	μA	-	1.0	1.0	15.0	μA	-	1.0	1.0	μA
Input Voltage	V_{IH}	12	0.660	0.910	0.710	0.760	0.520	0.570	V _{CC}	0.760	0.810	0.710	0.760	0.610	0.660	V _{CC}

APPLICATIONS INFORMATION

The MC1025/MC1225 dual 4-5 input expander is designed to work with the MC1024/MC1224 expandable gate. The transistors are manufactured with the same buried layer process used on all MECL II devices and are typical of MECL II gate transistors. BV_{CEQ} is 12 V or greater, $f_T \approx 600$ MHz, and β is typically from 100 to 150. An example of two 20-input NOR gates and a 40-input OR gate made from an MC1024/MC1224 expandable gate and four MC1025/MC1225 expanders is shown.

Two 20-input NOR gates and one 40-input OR gate generated using one MC1024/MC1224 expandable gate and four MC1025/MC1225 expanders.

