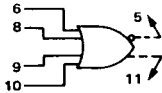
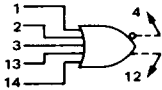


**MC1025**  
**MC1225**

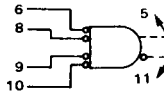
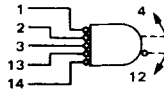
Dual expander arrays, with a 4-transistor array isolated from a 5-transistor array. The collectors and emitters from both arrays may be connected to form a 9-transistor array. With each base available, a 4, 5, or 9-input expander may be obtained.

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

**POSITIVE LOGIC**

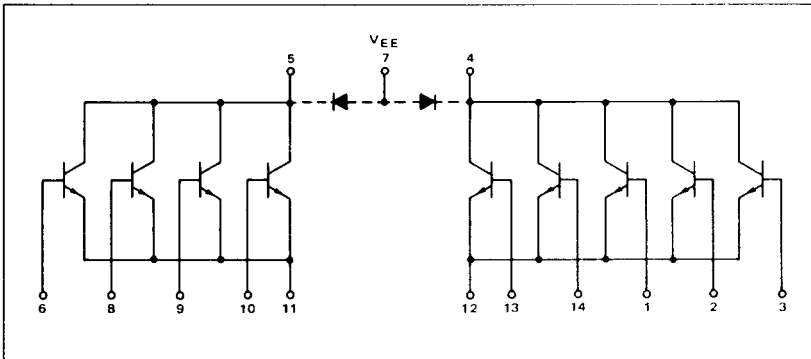


**NEGATIVE LOGIC**



DC Input Loading Factor = 1

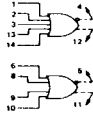
**CIRCUIT SCHEMATIC**



# MC1025, MC1225 (continued)

## ELECTRICAL CHARACTERISTICS

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



@ All Temperatures

Characteristic	Symbol	Pin Under Test	MC1225 Test Limits				MC1025 Test Limits				MC1025 Test Limits					
			-55 C		+25 C		+125 C		0 C		+25 C		+75 C			
			Min	Max	Min	Max	Min	Max	Unit	Min	Max	Min	Max	Unit		
Base Leakage Current	$I_{B1}$	1 2 3 13 14	0.5	0.5	0.5	0.5	2.0	Ark	Ark	0.5	0.5	2.0	Ark	Ark		
Collector Leakage Current	$I_{CkX}$	1 2 3 13 14	1.0	1.0	100	Ark	Ark	Ark	1.0	1.0	15.0	Ark	Ark			
Input Voltage	$V_{IH}$	12	0.600	0.910	0.710	0.760	0.520	0.570	V <sub>CC</sub>	0.700	0.810	0.710	0.760	0.610	0.660	V <sub>CC</sub>

TEST VOLTAGE/CURRENT VALUES						
$V_{dc} \pm 1.0\%$						
$V_{EE}$	$V_{CC}$	$V_{BB}$	$V_{CB}$	$V_{BE}$	$I_B$	mA <sub>dc</sub>
-2.0	-2.0	5.2	+0.7	+0.5	-1.53	

TEST VOLTAGE/CURRENT APPLIED TO PINS LISTED BELOW:						
$V_{EE}$	$V_{CC}$	$V_{BB}$	$V_{CB}$	$V_{BE}$	$I_B$	Grid
11, 12	-	1	-	-	-	4, 5, 7
-	-	2	-	-	-	-
-	-	3	-	-	-	-
-	-	13	-	-	-	-
-	-	14	-	-	-	-
4, 5, 7	-	-	-	1	-	11, 12
-	-	-	-	2	-	-
-	-	-	-	3	-	-
-	-	-	-	13	-	-
-	-	-	-	14	-	-
-	-	-	-	12	-	1
-	-	-	-	-	-	2
-	-	-	-	-	-	3
-	-	-	-	-	-	13
-	-	-	-	-	-	14

## 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.  $BV_{CE0}$  is 12 V or greater,  $f_T \approx 600$  MHz, and  $\beta$  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.

