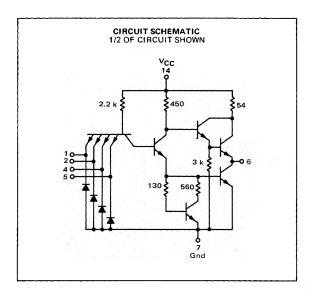
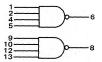
MC3100/MC3000 series

DUAL 4-INPUT "NAND" POWER GATE

MC3125F · MC3025F MC3125L · MC3025L,P

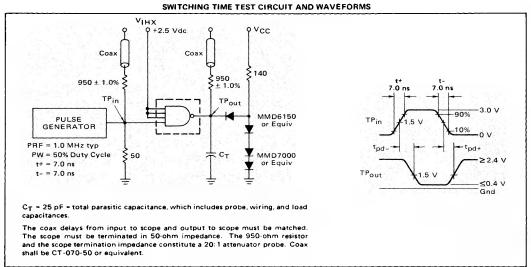


This device consists of two 4-input NAND power gate circuits. Each gate is designed for driving high fan-out loads (20).



Positive Logic: 6 = 1 • 2 • 4 • 5 Negative Logic: 6 = 1 + 2 + 4 + 5

Input Loading Factor = 1.3 Output Loading Factor = 20 Total Power Dissipation = 70 mW typ/pkg Propagation Delay Time = 6.0 ns typ



ELECTRICAL CHARACTERISTICS

Test procedures are shown for only one gate. The other gates are tested in the same manner. Further, test procedures are shown for only one input of the gate under test. To complete testing, sequence through remaining inputs.

		11			,																,			TO COUNTING ACTIVAL AREATS	LUES					
		13			\									(6	Tact		E	mA						×	Volts					
														Temp	Temperature	ا ₋	_ĕ	- <u>.</u> e	٩	۸ ا	>	>"	> _a	V _{RH}	V	۷,	Vccı	V _{ссн}	VIHX	
)	−55°C	40	-4.0		•	1.1	2.0	0.4	2.4	4.0		5.0	4.5	5.5		
													M	MC3125	+25°C	40	-4.0	1.0	-10	1.1	1.8	0.4	2.4	4.0	7.0	5.0	4.5	5.5	2.5	
														_	+125°C	40	-4.0		•	8.0	1.8	0.4	2.4	4.0	,	5.0	4.5	5.5	,	
														_	٥°C	40	-4.0		,	1.1	2.0	9.0	2.5	4.0		5.0	4.75	5.25		
													W	MC3025	+25°C	40	-4.0	1.0	-10	1.1	1.8	0.4	2.5	4.0	7.0	5.0	4.75	5.25	2.5	
27														_	+75°C	40	-4.0			6.0	1.8	0.4	2.5	4.0		5.0	4.75	5.25		_
	L	Pin	П	W	MC3125 Test		Limits		Ц		C3025	MC3025 Test Limits				L,				TEST C	URREN	1/10/	TAGE APP	FEST CURRENT / VOLTAGE APPLIED TO PINS LISTED BELOW	NS LIST	D BELO	. W			·
Characteristic	Symbol	Under	2	-55°C	-	+25°C	2	+125°C	×	0°C	2	+25°C	2	+75°C	į	_5	_5		٩	> "	>=	>"	>"	V EH	> xam	> 2	V _{CCL}	N FOC	V _H X	Pug Gud
Input Forward Current	I.	1	1	-2.6	Ľ	-2.6		-2.6				-	-11		11-	L	1	1	1	1	1.	1-	1	2, 4, 5		11-		11		**
Leakage Current	IR	-	Ŀ	20		20		20		20	ļ.	20	<u> </u>	20	μAdc	Ŀ	-	1			1.	1.	1			-		14	ļ.	2,4,5,7
Breakdown Voltage	BVin	1		-	5.5	1		Ŀ	'	1	5.5	1.	1.	Ŀ	Vdc	Ŀ	1.	-	1.	1	1.	1				1		14	1	2, 4, 5, 7*
Clamp Voltage	o'N	-	Ŀ	1	<u> </u>	-1.5	1	Ŀ	'	'	<u> </u>	-1.5	Ŀ	Ŀ	Vdc	Ŀ	1.	1	-	1.	1	1	,	-		-	14	ļ.	-	*-
Output Output Voltage	N _{OL}	9		4.0	1	4.0		4.0	1.	4.0	<u> </u>	6.0		6.0	Vdc	9	,			7.	-	1.		2,4,5			14	<u> </u>		1*
	МОЛ	9	2.4	1	2.4		2.4	-	2.5	'	2.5		2.5	,	Vdc	·	9	-		-	1			2, 4, 5			14		1	7
Short-Circuit Current	¹sc	9	-20	-125	-20	-125	-20	-125	-50	-125	-20	-125	-20	-125	mAdc	'	,						,	,	,	-		14		1,2,4,5,6,7*
Power Requirements (Total Device) Maximum Power Supply Current	Imax	14		1.		16	. '	,	,	i.	'	16		,	mAdc	,	,			,		,	,	,	14					1, 2, 4, 5, 7
Power Supply Drain	наа	14	1	34	'	34	1	34	,	34	'	34	'	34	mAdc	'	'		1	,		,	-	1, 2, 4, 5, 9, 10, 12, 13		-	'	14		7
	IDDL	14	. 1	10.6	1	10.6	1	10.6	'	10.6	1	10.6	'	10.6	mAdc	'	,	'				1,,,	,		,		1.	14	-	1, 2, 4, 5, 7 9, 10, 12, 13
Switching Parameters Turn-On Delay	pd.	1,6	1	i.		12	'	,	'	1	1	12	'	1	su	Pulse 1	Pulse Out	,	1	,	,	,	,		1	14	,	,	2, 4, 5	**
Turn-Off Delay	t pd+	1,6		-	1	12	-	1.		'		12	'	1	su	1	9	-	-		!	-				14	,		2, 4, 5	* L