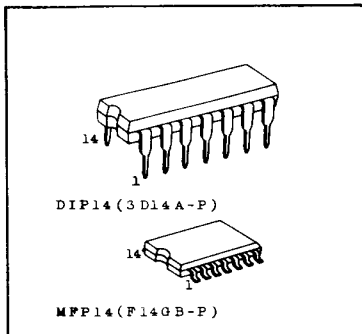
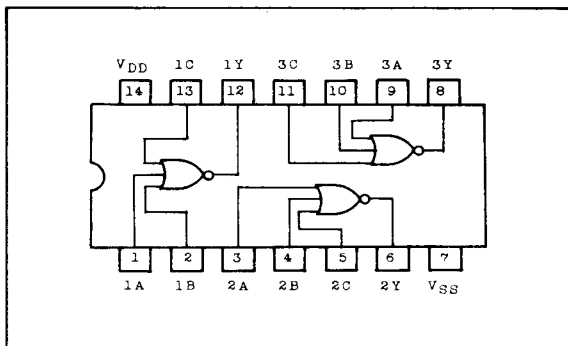


C²MOS DIGITAL INTEGRATED CIRCUIT
SILICON MONOLITHIC

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TC40H027 TRIPLE 3-INPUT NOR GATE
PIN CONNECTION

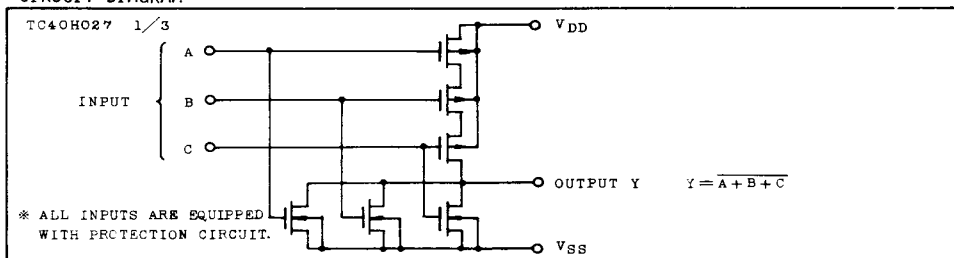
MAXIMUM RATINGS

CHARACTERISTIC	SYMBOL	RATING	UNIT
Supply Voltage	VDD	VSS-0.5 ~ VSS+10	V
Input Voltage	VIN	VSS-0.5 ~ VDD+0.5	V
Output Voltage	VOUT	VSS-0.5 ~ VDD+0.5	V
Input Current	IIN	±10	mA
Power Dissipation	PD	300(DIP)/180(MFP)	mW
Storage Temperature	Tstg	-65 ~ 150	°C
Lead Temp./Time	Tsol	260°C•10 sec	

TRUTH TABLE

INPUTS			OUTPUT
A	B	C	Y
L	L	L	H
H	L	L	L
L	H	L	L
H	H	L	L
L	L	H	L
H	L	H	L
L	H	H	L
H	H	H	L

CIRCUIT DIAGRAM



RECOMMENDED OPERATING CONDITIONS (VSS=0.0V)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT.
Supply Voltage	VDD	-	2.0	-	8.0	V
Input Voltage	VIN	-	0	-	VDD	V
Operating Temperature	Topr	-	-40	-	85	°C

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ELECTRICAL CHARACTERISTICS (V_{SS}=0.0V)

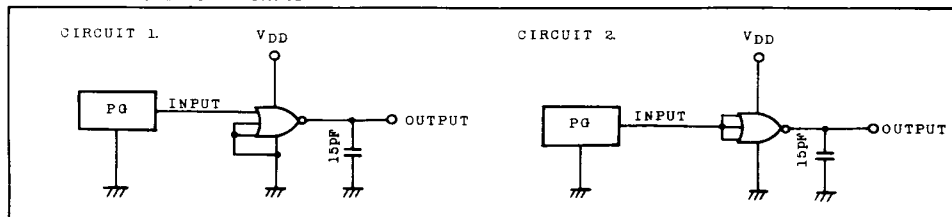
CHARACTERISTIC	SYMBOL	TEST CONDITION	V _{DD} (V)	-40°C		25°C			85°C		UNIT
				MIN.	MAX.	MIN.	TYP.	MAX.	MIN.	MAX.	
High Level Output Voltage	V _{OH}	I _{OUT} < 1μA V _{IN} =V _{SS}	5	4.95	-	4.95	5.0	-	4.95	-	V
Low Level Output Voltage	V _{OL}	I _{OUT} < 1μA V _{IN} =V _{SS} , V _{DD}	5	-	0.05	-	0.0	0.05	-	0.05	
High Level Output Current	I _{OH}	V _{OH} =4.6V V _{IN} =V _{SS}	5	-0.52	-	-0.44	-	-	-0.36	-	mA
Low Level Output Current	I _{OL}	V _{OL} =0.4V V _{IN} =V _{SS} , V _{DD}	5	1.4	-	1.1	-	-	0.8	-	
Input Voltage	High Level V _{IH}	I _{OUT} < 1μA V _{OUT} =0.5V	5	4.0	-	4.0	-	-	4.0	-	V
	Low Level V _{IL}	V _{OUT} =4.5V	5	-	1.0	-	-	1.0	-	1.0	
Input Current	High Level I _{IH}	V _{IH} =8.0V	8	-	0.3	-	10 ⁻⁵	0.3	-	1.0	μA
	Low Level I _{IL}	V _{IL} =0.0V	8	-	-0.3	-	-10 ⁻⁵	-0.3	-	-1.0	
Quiescent Supply Current	I _{DD}	*V _{IN} =V _{SS} , V _{DD}	5	-	2.0	-	10 ⁻³	2.0	-	10.0	μA

* All valid input combinations.

SWITCHING CHARACTERISTICS (T_a=25°C, V_{SS}=0.0V, C_L=15pF)

CHARACTERISTIC		SYMBOL	TEST CONDITION	V _{DD} (V)	MIN.	TYP.	MAX.	UNIT
Output Rise Time		t _{or}	Circuit 1	5	-	26	40	ns
Output Fall Time		t _{of}	Circuit 1	5	-	20	35	
Propagation Delay Time	(Low-High)	t _{PLH}	Circuit 1	5	-	18	30	ns
	(High-Low)	t _{pHL}		5	-	18	30	
Propagation Delay Time	(Low-High)	t _{pLH}	Circuit 2	5	-	20	30	ns
	(High-Low)	t _{pHL}		5	-	12	20	
Input Capacitance		C _{IN}			-	5	-	pF

SWITCHING TIME TEST CIRCUIT



TC40H027P/F**SWITCHING TIME TEST WAVEFORM**