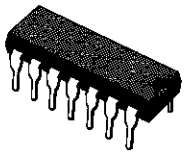
上海双岭电子有限公司

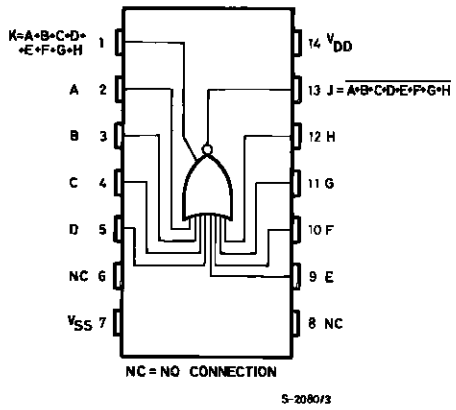
CC4078

8-INPUT NOR/OR GATE

- MEDIUM-SPEED OPERATION t_{PHL}, t_{PLH} = 75ns (TYP.) AT V_{DD} = 10V
- QUIESCENT CURRENT SPECIFIED TO 20V FOR HCC DEVICE
- 5V, 10V, AND 15V PARAMETRIC RATINGS
- INPUT CURRENT OF 100nA AT 18V AND 25°C FOR HCC DEVICE
- 100% TESTED FOR QUIESCENT CURRENT
- MEETS ALL REQUIREMENTS OF JEDEC TENTATIVE STANDARD No. 13A, "STANDARD SPECIFICATIONS FOR DESCRIPTION OF "B" SERIES CMOS DEVICES"



PIN CONNECTIONS



NC = NO CONNECTION

S-2080/3

DESCRIPTION

The **CC4078** (extended temperature range) and **CC4078** (intermediate temperature range) are monolithic integrated circuit, available in 14-lead dual in-line plastic or ceramic package, plastic micropackage.

The **CC4078** NOR/OR Gate provides the system designer with direct implementation of the positive-logic-8-input NOR and OR function and supplements the existing family of COS/MOS gates.

ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_{DD}*	Supply Voltage :	– 0.5 to + 20	V
V_i	Input Voltage	– 0.5 to V_{DD} + 0.5	V
I_I	DC Input Current (any one input)	± 10	mA
P_{tot}	Total Power Dissipation (per package) Dissipation per Output Transistor for T_{op} = Full Package-temperature Range	200 100	mW mW
T_{op}	Operating Temperature :	– 55 to + 125	°C
T_{stg}	Storage Temperature	– 65 to + 150	°C

Stresses above those listed under "Absolute Maximum Ratings" may cause permanent damage to the device. This is a stress rating only and functional operation of the device at these or any other conditions above those indicated in the operational sections of this specification is not implied. Exposure to absolute maximum rating conditions for external periods may affect device reliability.

* All voltage values are referred to V_{SS} pin voltage.

RECOMMENDED OPERATING CONDITIONS

Symbol	Parameter	Value	Unit
V_{DD}	Supply Voltage :	3 to 18	V
V_I	Input Voltage	0 to V_{DD}	V
T_{op}	Operating Temperature :	– 55 to + 125	°C

STATIC ELECTRICAL CHARACTERISTICS (over recommended operating conditions)

Symbol	Parameter	Test Conditions				Value							Unit
		V_I (V)	V_O (V)	$\|I_O\|$ (µA)	V_{DD} (V)	T_{Low}*		25°C			T_{High}*		
						Min.	Max.	Min.	Typ.	Max.	Min.	Max.	
I_L	Quiescent Current	0/ 5			5		0.25		0.01	0.25		7.5	µA
		0/10			10		0.5		0.01	0.5		15	
		0/15			15		1		0.01	1		30	
		0/18			18		5		0.02	5		150	
V_{OH}	Output High Voltage	0/ 5		< 1	5	4.95		4.95			4.95		V
		0/10		< 1	10	9.95		9.95			9.95		
		0/15		< 1	15	14.95		14.95			14.95		
V_{OL}	Output Low Voltage	5/0		< 1	5		0.05			0.05		0.05	V
		10/0		< 1	10		0.05			0.05		0.05	
		15/0		< 1	15		0.05			0.05		0.05	
V_{IH}	Input High Voltage		0.5/4.5	< 1	5	3.5		3.5			3.5		V
			1/9	< 1	10	7		7			7		
			1.5/13.5	< 1	15	11		11			11		
V_{IL}	Input Low Voltage		4.5/0.5	< 1	5		1.5			1.5		1.5	V
			9/1	< 1	10		3			3		3	
			13.5/1.5	< 1	15		4			4		4	
I_{OH}	Output Drive Current	0/ 5	2.5		5	– 2		– 1.6	– 3.2		– 1.15		mA
		0/ 5	4.6		5	– 0.64		– 0.51	– 1		– 0.36		
		0/10	9.5		10	– 1.6		– 1.3	– 2.6		– 0.9		
		0/15	13.5		15	– 4.2		– 3.4	– 6.8		– 2.4		
I_{OL}	Output Sink Current	0/ 5	0.4		5	0.64		0.51	1		0.36		mA
		0/10	0.5		10	1.6		1.3	2.6		0.9		
		0/15	1.5		15	4.2		3.4	6.8		2.4		
I_{IH}, I_{IL}	Input Leakage Current	0/18	Any Input		18		± 0.1		$\pm 10^{-5}$	± 0.1		± 1	µA
C_I	Input Capacitance		Any Input						5	7.5			pF