



MILITARY DATA SHEET

MNCD4071BM-X REV 0AL

Original Creation Date: 10/12/95
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QUAD 2-INPUT OR BUFFERED B SERIES GATE

Industry Part Number

CD4071BM

NS Part Numbers

CD4071BMJ/883
CD4071BMW/883

Prime Die

CD4071BM

Processing

MIL-STD-883, Method 5004

Quality Conformance Inspection

MIL-STD-883, Method 5005

Subgrp Description

Temp (°C)

1	Static tests at	+25
2	Static tests at	+125
3	Static tests at	-55
4	Dynamic tests at	+25
5	Dynamic tests at	+125
6	Dynamic tests at	-55
7	Functional tests at	+25
8A	Functional tests at	+125
8B	Functional tests at	-55
9	Switching tests at	+25
10	Switching tests at	+125
11	Switching tests at	-55

Electrical Characteristics

DC PARAMETERS

SYMBOL	PARAMETER	CONDITIONS	NOTES	PIN-NAME	MIN	MAX	UNIT	SUB-GROUPS
I _{dd}	Quiescent Device Current	V _{cc} = 5V				.25	uA	1, 3
						7.5	uA	2
		V _{cc} = 10V				.5	uA	1, 3
						15	uA	2
		V _{cc} = 15V	5			1	uA	1, 3
			5			30	uA	2
V _{ol}	Logical "0" Output Voltage	V _{cc} = 5V, I _{out} < 1uA				.05	V	1, 2, 3
		V _{cc} = 10V, I _{out} < 1uA				.05	V	1, 2, 3
		V _{cc} = 15V, I _{out} < 1uA				.05	V	1, 2, 3
V _{oh}	Logical "1" Output Voltage	V _{cc} = 5V, I _{out} < 1uA			4.95		V	1, 2, 3
		V _{cc} = 10V, I _{out} < 1uA			9.95		V	1, 2, 3
		V _{cc} = 15V, I _{out} < 1uA			14.95		V	1, 2, 3
I _{ol}	Logical "0" Output Current	V _{cc} = 5V, V _{out} = .4V			.51		mA	1
					.36		mA	2
					.64		mA	3
		V _{cc} = 10V, V _{out} = .5V			1.3		mA	1
					.9		mA	2
					1.6		mA	3
		V _{cc} = 15V, V _{out} = 1.5V	3		3.4		mA	1
			3		2.4		mA	2
			3		4.2		mA	3

Electrical Characteristics**DC PARAMETERS (Continued)**

SYMBOL	PARAMETER	CONDITIONS	NOTES	PIN-NAME	MIN	MAX	UNIT	SUB-GROUPS
Ioh	Logical "1" Output Current	Vcc = 5V, Vout = 4.6V			-.51		mA	1
					-.36		mA	2
					-.64		mA	3
		Vcc = 10V, Vout = 9.5V			-1.3		mA	1
					-.9		mA	2
					-1.6		mA	3
		Vcc = 15V, Vout = 13.5V	3		-3.4		mA	1
			3		-2.4		mA	2
			3		-4.2		mA	3
Iih	Logical "1" Input Current	Vcc = 15V, Vin = 15V				.1	uA	1, 3
						1	uA	2
Iil	Logical "0" Input Current	Vcc = 15V, Vin = 0V				-.1	uA	1, 3
						-1	uA	2
Vil	Logical "0" Input Voltage	Vcc = 5V, Vout = .5V	1			1.5	V	1, 2, 3
		Vcc = 10V, Vout = 1V	1			3	V	1, 2, 3
		Vcc = 15V, Vout = 1.5V	1			4	V	1, 2, 3
Vih	Logical "1" Input Voltage	Vcc = 5V, Vout = 4.5V	1		3.5		V	1, 2, 3
		Vcc = 10V, Vout = 9V	1		7		V	1, 2, 3
		Vcc = 15V, Vout = 13.5V	1		11		V	1, 2, 3

DC PARAMETERS: RAD HARD STRESS TEST

Iih	Input Leakage Current	Vdd = 15V, Vih = 15V				1000	nA	2
Iil	Input Leakage Current	Vdd = 15V, Vil = 0V				-1000	nA	2
	Power Supply Current	Vdd = 15V, Vih = 15V				30	uA	2

Electrical Characteristics

AC PARAMETERS

(The following conditions apply to all the following parameters, unless otherwise specified.)

AC: $t_r = t_f = 20\text{nS}$, $C_l = 50\text{pF}$, $R_l = 20\text{K Ohms}$ or equivalent impedance provided by diode load.

SYMBOL	PARAMETER	CONDITIONS	NOTES	PIN-NAME	MIN	MAX	UNIT	SUB-GROUPS
tPHL	Propagation Delay Time:	Vdd = 5V	4			250	nS	9
			4			350	nS	10
			4			200	nS	11
		Vdd = 10V	2			100	nS	9
			2			140	nS	10
			2			80	nS	11
		Vdd = 15V	2			70	nS	9
			2			100	nS	10
			2			55	nS	11
tPLH	Propagation Delay Time:	Vdd = 5V	4			250	nS	9
			4			350	nS	10
			4			200	nS	11
		Vdd = 10V	2			100	nS	9
			2			140	nS	10
			2			80	nS	11
		Vdd = 15V	2			70	nS	9
			2			100	nS	10
			2			55	nS	11
tTHL	Transition Time	Vdd = 5V	4			200	nS	9
			4			300	nS	10, 11
		Vdd = 10V	2			100	nS	9
			2			150	nS	10, 11
		Vdd = 15V	2			80	nS	9
			2			120	nS	10, 11
tTLH	Transition Time	Vdd = 5V	4			200	nS	9
			4			300	nS	10, 11
		Vdd = 10V	2			100	nS	9
			2			150	nS	10, 11
		Vdd = 15V	2			80	nS	9
			2			120	nS	10, 11

Electrical Characteristics

AC PARAMETERS (Continued)

(The following conditions apply to all the following parameters, unless otherwise specified.)

AC: $t_r = t_f = 20\text{ns}$, $C_l = 50\text{pF}$, $R_l = 20\text{K Ohms}$ or equivalent impedance provided by diode load.

SYMBOL	PARAMETER	CONDITIONS	NOTES	PIN-NAME	MIN	MAX	UNIT	SUB-GROUPS
Cin	Average Input Capacitance		2			7.5	pF	9

Note 1: Parameter tested go-no-go only.

Note 2: Guaranteed parameter not tested.

Note 3: $\pm 15\%$ of reading, and also applies to Class "S" only, except 38510.

Note 4: Tested at 25 C; guaranteed but not tested at +125 C & -55 C.

Note 5: Applies to Class "S" only, except 38510. Drift Limits at 25 C for $I_{dd} = \pm 3\mu\text{A}$. "THIS NOTE IS INVALID AND CURRENTLY BEING UPDATED. CONTACT FACTORY."