

MNCD4724BM-X REV 0ALOriginal Creation Date: 10/12/95
Last Update Date: 01/17/96
Last Major Revision Date: 10/12/95**8-BIT ADDRESSABLE LATCH****Industry Part Number**

CD4724BM

NS Part Numbers

CD4724BMJ-MIL

Prime Die

CD4724BM

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

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

DC: $V_{SS} = 0V$

SYMBOL	PARAMETER	CONDITIONS	NOTES	PIN-NAME	MIN	MAX	UNIT	SUB-GROUPS
Vol	Logical "0" Output Voltage	$V_{CC} = 5V, V_{ih} = 5V, V_{il} = 0V, I_{out} \leq 1\mu A$				.05	V	1, 2, 3
		$V_{CC} = 10V, V_{ih} = 10V, V_{il} = 0V, I_{out} \leq 1\mu A$				.05	V	1, 2, 3
		$V_{CC} = 15V, V_{ih} = 15V, V_{il} = 0V, I_{out} \leq 1\mu A$				.05	V	1, 2, 3
Voh	Logical "1" Output Voltage	$V_{CC} = 5V, V_{ih} = 5V, V_{il} = 0V, I_{out} \leq 1\mu A$			4.95		V	1, 2, 3
		$V_{CC} = 10V, V_{ih} = 10V, V_{il} = 0V, I_{out} \leq 1\mu A$			9.95		V	1, 2, 3
		$V_{CC} = 15V, V_{ih} = 15V, V_{il} = 0V, I_{out} \leq 1\mu A$			14.95		V	1, 2, 3
Iih	Logical "1" Input Current	$V_{CC} = 15V, V_{in} = 15V$				100	nA	1, 3
						1000	nA	2
Iil	Logical "0" Input Current	$V_{CC} = 15V, V_{in} = 0V$				-100	nA	1, 3
						-1000	nA	2
Ioh	Output Source Current	$V_{CC} = 5V, V_{ih} = 5V, V_{il} = 0V, V_{out} = 4.6V$			-0.51		mA	1
					-0.36		mA	2
					-0.64		mA	3
		$V_{CC} = 10V, V_{ih} = 10V, V_{il} = 0V, V_{out} = 9.5V$			-1.3		mA	1
					-0.9		mA	2
					-1.6		mA	3
		$V_{CC} = 15V, V_{ih} = 15V, V_{il} = 0V, V_{out} = 13.5V$	3		-3.4		mA	1
			3		-2.4		mA	2
			3		-4.2		mA	3

Electrical Characteristics

DC PARAMETERS (Continued)

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

DC: $V_{SS} = 0V$

SYMBOL	PARAMETER	CONDITIONS	NOTES	PIN-NAME	MIN	MAX	UNIT	SUB-GROUPS
I _{ol}	Logical "0" Output Current	V _{cc} = 5V, V _{ih} = 5V, V _{il} = 0V, V _{out} = .4V			.51		mA	1
					.36		mA	2
					.64		mA	3
		V _{cc} = 10V, V _{ih} = 10V, V _{il} = 0V, V _{out} = .5V			1.3		mA	1
					.9		mA	2
					1.6		mA	3
		V _{cc} = 15V, V _{ih} = 15V, V _{il} = 0V, V _{out} = 1.5V	3		3.4		mA	1
			3		2.4		mA	2
			3		4.2		mA	3
I _{cc}	Power Supply Current	V _{cc} = 5V, V _{ih} = 5V, V _{il} = 0V,				5	uA	1, 3
						150	uA	2
		V _{cc} = 10V, V _{ih} = 10V, V _{il} = 0V,				10	uA	1, 3
						300	uA	2
		V _{cc} = 15V, V _{ih} = 15V, V _{il} = 0V,	4			20	uA	1, 3
			4			600	uA	2
V _{ih}	Logical "1" Input Voltage	V _{cc} = 5V, V _{out} = .5V or 4.5V	1		3.5		V	1, 2, 3
		V _{cc} = 10V, V _{out} = 1V or 9V	1		7		V	1, 2, 3
		V _{cc} = 15V, V _{out} = 1.5V or 13.5V	1		11		V	1, 2, 3
V _{il}	Logical "0" Input Voltage	V _{cc} = 5V, V _{out} = .5V or 4.5V	1			1.5	V	1, 2, 3
		V _{cc} = 10V, V _{out} = 1V or 9V	1			3	V	1, 2, 3
		V _{cc} = 15V, V _{out} = 1.5V or 13.5V	1			4	V	1, 2, 3

Electrical Characteristics

AC PARAMETERS

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

AC: $C_l = 50\text{pF}$, $t_r = t_f = 20\text{nS}$, $R_l = 200\text{K}$

SYMBOL	PARAMETER	CONDITIONS	NOTES	PIN-NAME	MIN	MAX	UNIT	SUB-GROUPS
tPLH	Propagation Delay Time: Data to Output	Vdd = 5V	2			400	nS	9
			2			560	nS	10
			2			320	nS	11
		Vdd = 10V	2			150	nS	9
			2			210	nS	10
			2			120	nS	11
		Vdd = 15V	2			100	nS	9
			2			140	nS	10
			2			80	nS	11
tPHL	Propagation Delay Time: Data to Output	Vdd = 5V	2			400	nS	9
			2			560	nS	10
			2			320	nS	11
		Vdd = 10V	2			150	nS	9
			2			210	nS	10
			2			120	nS	11
		Vdd = 15V	2			100	nS	9
			2			140	nS	10
			2			80	nS	11
tPLH	Propagation Delay Time: Enable to Output	Vdd = 5V	2			400	nS	9
			2			560	nS	10
			2			320	nS	11
		Vdd = 10V	2			160	nS	9
			2			225	nS	10
			2			130	nS	11
		Vdd = 15V	2			120	nS	9
			2			170	nS	10
			2			95	nS	11

Electrical Characteristics

AC PARAMETERS (Continued)

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

AC: $C_l = 50\text{pF}$, $t_r = t_f = 20\text{nS}$, $R_l = 200\text{K}$

SYMBOL	PARAMETER	CONDITIONS	NOTES	PIN-NAME	MIN	MAX	UNIT	SUB-GROUPS
tPHL	Propagation Delay Time: Enable to Output	Vdd = 5V	2			400	nS	9
			2			560	nS	10
			2			320	nS	11
		Vdd = 10V	2			160	nS	9
			2			225	nS	10
			2			130	nS	11
		Vdd = 15V	2			120	nS	9
			2			170	nS	10
			2			95	nS	11
tPHL	Propagation Delay Time: Clear to Output	Vdd = 5V	2			350	nS	9
			2			490	nS	10
			2			280	nS	11
		Vdd = 10V	2			160	nS	9
			2			225	nS	10
			2			130	nS	11
		Vdd = 15V	2			130	nS	9
			2			180	nS	10
			2			105	nS	11
tPLH	Propagation Delay Time: Address to Output	Vdd = 5V	2			450	nS	9
			2			630	nS	10
			2			360	nS	11
		Vdd = 10V	2			200	nS	9
			2			280	nS	10
			2			160	nS	11
		Vdd = 15V	2			150	nS	9
			2			210	nS	10
			2			120	nS	11

Electrical Characteristics

AC PARAMETERS (Continued)

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

AC: $C_l = 50\text{pF}$, $t_r = t_f = 20\text{nS}$, $R_l = 200\text{K}$

SYMBOL	PARAMETER	CONDITIONS	NOTES	PIN-NAME	MIN	MAX	UNIT	SUB-GROUPS
tPHL	Propagation Delay Time: Address to Output	Vdd = 5V	2			450	nS	9
			2			630	nS	10
			2			360	nS	11
		Vdd = 10V	2			200	nS	9
			2			280	nS	10
			2			160	nS	11
		Vdd = 15V	2			150	nS	9
			2			210	nS	10
			2			120	nS	11
tTHL	Transition Time (any output)	Vdd = 5V	2			200	nS	9
		Vdd = 10V	2			100	nS	9
		Vdd = 15V	2			80	nS	9
tTLH	Transition Time (any output)	Vdd = 5V	2			200	nS	9
		Vdd = 10V	2			100	nS	9
		Vdd = 15V	2			80	nS	9
tWH	Minimum Data Pulse Width	Vdd = 5V	2			200	nS	9
		Vdd = 10V	2			100	nS	9
		Vdd = 15V	2			80	nS	9
tWL	Minimum Data Pulse Width	Vdd = 5V	2			200	nS	9
		Vdd = 10V	2			100	nS	9
		Vdd = 15V	2			80	nS	9
tWH	Minimum Address Pulse Width	Vdd = 5V	2			400	nS	9
		Vdd = 10V	2			200	nS	9
		Vdd = 15V	2			125	nS	9
tWL	Minimum Address Pulse Width	Vdd = 5V	2			400	nS	9
		Vdd = 10V	2			200	nS	9
		Vdd = 15V	2			125	nS	9
tWH	Minimum Clear Pulse Width	Vdd = 5V	2			150	nS	9
		Vdd = 10V	2			75	nS	9
		Vdd = 15V	2			50	nS	9

Electrical Characteristics

AC PARAMETERS (Continued)

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

AC: $C_l = 50\text{pF}$, $t_r = t_f = 20\text{nS}$, $R_l = 200\text{K}$

SYMBOL	PARAMETER	CONDITIONS	NOTES	PIN-NAME	MIN	MAX	UNIT	SUB-GROUPS
tSU	Minimum Setup Time Data to E	Vdd = 5V	2			80	nS	9
		Vdd = 10V	2			40	nS	9
		Vdd = 15V	2			30	nS	9
tH	Minimum Hold Time Data to E	Vdd = 5V	2			120	nS	9
		Vdd = 10V	2			60	nS	9
		Vdd = 15V	2			50	nS	9
tSU	Minimum Setup Time Address to E	Vdd = 5V	2			50	nS	9
		Vdd = 10V	2			30	nS	9
		Vdd = 15V	2			20	nS	9
tH	Minimum Hold Time Address to E	Vdd = 5V	2			15	nS	9
		Vdd = 10V	2			10	nS	9
		Vdd = 15V	2			5	nS	9
Cin	Input Capacitance	Any Input	2			7.5	pF	9

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

Note 2: Guaranteed parameter not tested.

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

Note 4: Applies to Class "S" only, except 38510. Drift Limits at 25 C for $I_{cc} = \pm 2.5\mu\text{A}$. "THIS NOTE IS INVALID AND CURRENTLY BEING UPDATED. CONTACT FACTORY."