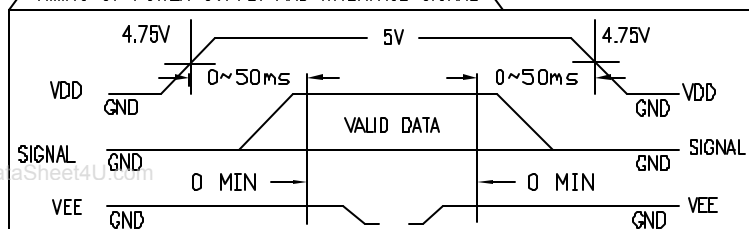


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ELECTRICAL MAXIMUM RATINGS

ITEM	SYMBOL	MIN.	MAX.	UNIT
POWER SUPPLY FOR LOGIC	$V_{DD}-V_{SS}$	0	6.5	V
POWER SUPPLY FOR LCD DRIVING	$V_{DD}-V_{EE}$	0	22.0	V
INPUT VOLTAGE	V_I	V_{SS}	V_{DD}	V
STATIC ELECTRICITY			100	V

TIMING OF POWER SUPPLY AND INTERFACE SIGNAL



PIN CONFIGURATION

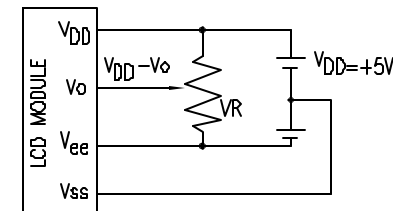
PIN #	SYMBOL	LEVEL	FUNCTION
1	V_{SS}	-	GROUND (0V)
2	V_{DD}	-	POWER SUPPLY FOR LOGIC CIRCUIT
3	V_O	-	OPERATING VOLTAGE FOR LCD DRIVING
4	$C/\bar{D}$	H/L	$\overline{WR}="L"$, $C/\bar{D}="H"$: COMMAND WRITE, "L": DATA WRITE $\overline{RD}="L"$, $C/\bar{D}="H"$: STATUS READ, "L": DATA READ
5	$\overline{RD}$	L	DATA READ
6	$\overline{WR}$	L	DATA WRITE
7~14	DB0~DB7	H/L	DATA BUS LINE
15	$\overline{CE}$	L	CHIP ENABLE
16	$\overline{RST}$	L	RESET
17	V_{EE}	-	POWER SUPPLY FOR LCD DRIVING
18	MD2	H/L	COLUMNS SELECT: "H": 32 COLUMNS, "L": 40 COLUMNS
19	FS	H/L	FONT SELECT: "H": 6*8 PIXEL/FONT, "L": 8*8 PIXEL/FONT
20	N.C.	-	
	A	-	POWER SUPPLY FOR LED BACKLIGHT (ANODE)
	K	-	POWER SUPPLY FOR LED BACKLIGHT (CATHODE)

PART NUMBER
LCM-X240128GXX(-X)

REV.
B

REV.	E.C.N. NUMBER AND REVISION COMMENTS	DATE
	SEE PAGE #1./	

⑧ $V_{DD}-V_O$: LCD DRIVING VOLTAGE
VR: 10K Ω ~20K Ω



ABSOLUTE MAXIMUM RATINGS

ITEM	SYMBOL	STANDARD VALUE			UNIT
		MIN.	TYP.	MAX.	
POWER SUPPLY VOLTAGE FOR LOGIC	$V_{DD}-V_{SS}$	+4.75	+5.0	+5.25	V
NEGATIVE POWER SUPPLY VOLTAGE FOR LCD DRIVE	$V_{EE}-V_{SS}$	-15.5	-16.0	-16.5	V
INPUT VOLTAGE: NOTE (1)	H LEVEL	V_{IH}	2.2	-	V
	L LEVEL	V_{IL}	0	-	V
OUTPUT VOLTAGE: NOTE (2)	H LEVEL	V_{OH}	2.4	-	V
	L LEVEL	V_{OL}	0	-	V
POWER SUPPLY CURRENT FOR LOGIC: NOTE (4)	I_{DD}	-	12.0	-	mA
POWER SUPPLY CURRENT FOR LCD DRIVE: NOTE (4)	I_{EE}	-	5.0	-	mA
RECOMMENDED LCD DRIVING VOLTAGE: (NOTE 3)	$T_a=0^\circ\text{C}$	$V_{DD}-V_O$	-	+19.4	V
	$T_a=25^\circ\text{C}$	$\Phi=10^\circ\text{C}$	-	+18.5	V
	$T_a=50^\circ\text{C}$	$\Phi=0^\circ\text{C}$	-	+16.2	V
CLOCK OSCILLATION FREQUENCY	f_{osc}	-	5	-	MHZ

NOTE (1): APPLIED TO TERMINALS: FS, CE, $\overline{WR}$, $\overline{RD}$, $C/\bar{D}$, DB0~DB7, $\overline{RES}$, MD2.

NOTE (2): APPLIED TO TERMINALS: DB0~DB7.

NOTE (3): RECOMMENDED LCD DRIVING VOLTAGE MAY FLUCTUATE

ABOUT $\pm 1.0\text{V}$ BY EACH MODULE.

NOTE (4): $V_{DD}-V_{SS}=5.0\text{V}$, $V_{DD}-V_O=20.6\text{V}$.

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*UNLESS OTHERWISE SPECIFIED TOLERANCE IS $\pm 0.25\text{mm}$ ($\pm 0.010^\circ$)

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PART NUMBER
LCM-X240128GXX(-X)

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RELIABILITY NOTE
OUR MANY YEARS OF EXPERIENCE DATA ACCUMULATION INDICATE THAT SOLDER HEAT IS A MAJOR CAUSE OF EARLY AND FUTURE FAILURE. PLEASE PAY ATTENTION TO YOUR SOLDERING PROCESS.

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SCALE: N/A

240 x 128 DOT MATRIX GRAPHIC MODULE,
1/128 DUTY.

SA/OU