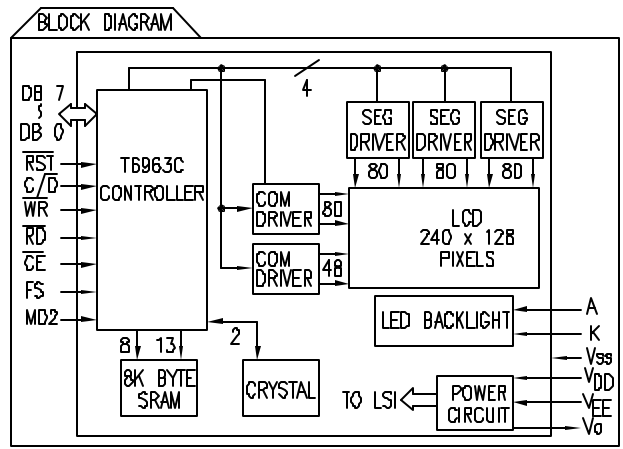
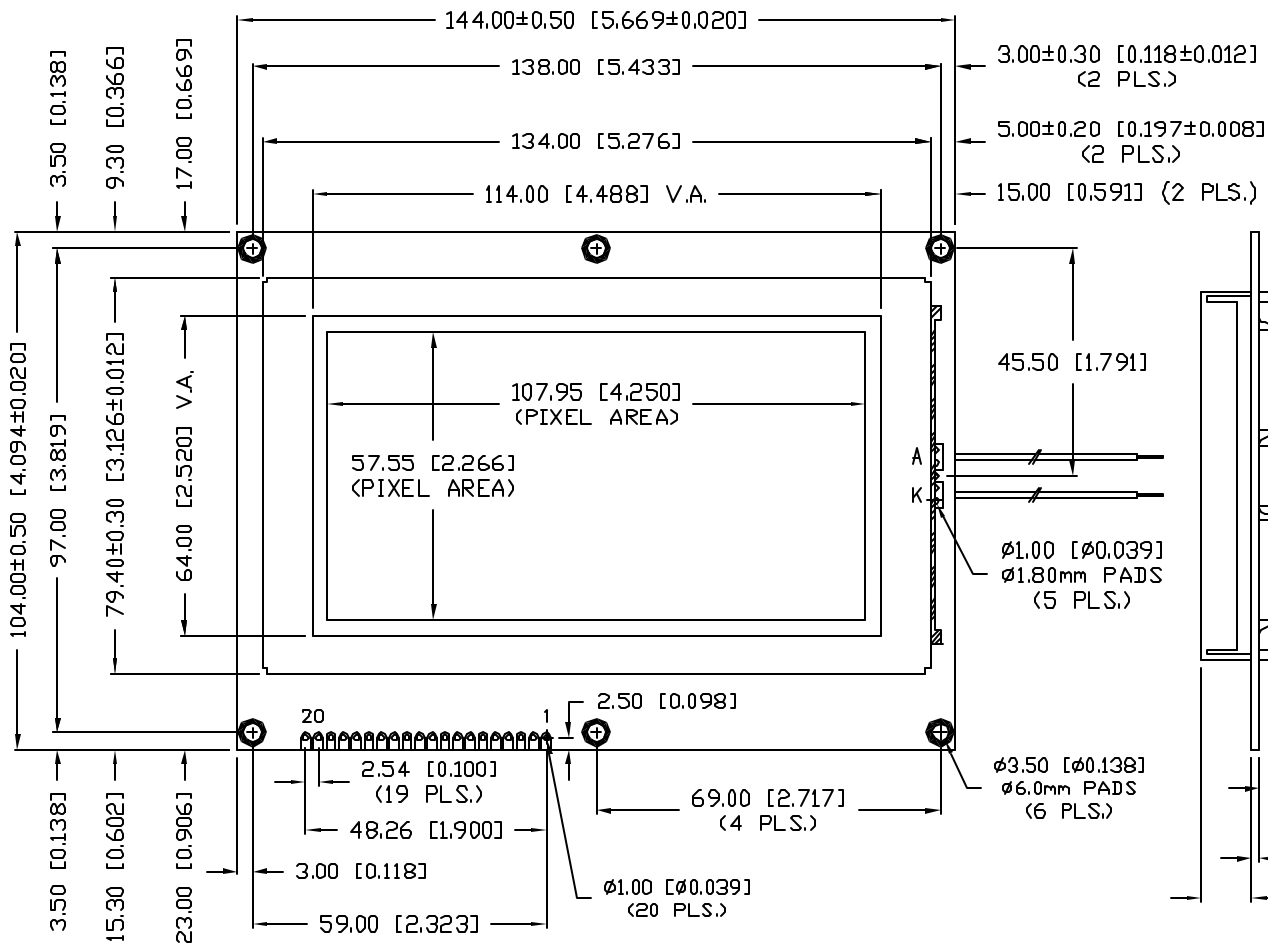
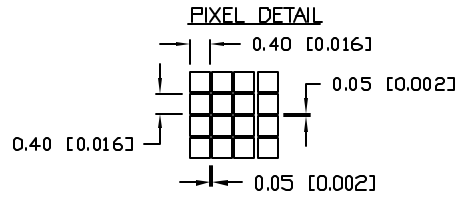


UNCONTROLLED DOCUMENT

PART NUMBER		REV.
LCM-H240128GSN-1WC		A
REV.	E.C.N. NUMBER AND REVISION COMMENTS	DATE
A	E.C.N. #11148.	4.20.07



NOTES:

1. RED WIRE: ANODE, 150mm, 24AWG, 5mm STRIPPED END.
2. BLACK WIRE: GND, 150mm, 24AWG, 5mm STRIPPED END.

CAUTION: STATIC SENSITIVE DEVICE  
FOLLOW PROPER E.S.D. HANDLING PROCEDURES  
WHEN WORKING WITH THIS PART.

UNCONTROLLED DOCUMENT

\*UNLESS OTHERWISE SPECIFIED TOLERANCES PER DECIMAL PRECISION ARE: X=±1 (±0.039), XX=±0.5 (±0.020), XXX=±0.25 (±0.010), XXXX=±0.127 (±0.005). LEAD SIZE=±0.05 (±0.002), LEAD LENGTH=±0.75 (±0.030), MIN. +DECIMAL PRECISION MAX. = +0.00 -DECIMAL PRECISION

REV.	PART NUMBER
A	LCM-H240128GSN-1WC

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240 x 128 DOT MATRIX GRAPHIC MODULE, STN BLUE, NEGATIVE IMAGE, TRANSMISIVE, WHITE LED BACKLIGHT, HIGH OPERATING TEMP, 1/128 DUTY, 12:00 VIEW.

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.

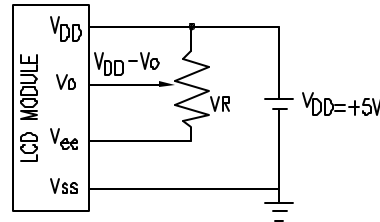
DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE: 1.17.06
JC			PAGE: 1 OF 2
			SCALE: N/A

REV.	E.C.N. NUMBER AND REVISION COMMENTS	DATE
A	SEE APGE #1	

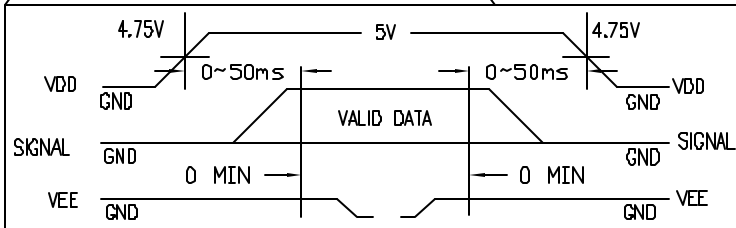
ABSOLUTE MAXIMUM RATINGS

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

$V_{DD}-V_o$ : LCD DRIVING VOLTAGE  
VR: 10K $\Omega$  - 20K $\Omega$



TIMING OF POWER SUPPLY AND INTERFACE SIGNAL



OPTO-ELECTRICAL CHARACTERISTICS

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	0.8	V	
OUTPUT VOLTAGE: NOTE (2)	H LEVEL	$V_{OH}$	2.4	$V_{DD}$	V	
	L LEVEL	$V_{OL}$	0	0.4	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)	$T_a=0^\circ C$	$V_{DD}-V_o$	-	+19.4	V	
	$T_a=25^\circ C$	$\Phi=10^\circ C$	-	+18.5	V	
	$\theta=0^\circ C$		-	+16.2	V	
CLOCK OSCILLATION FREQUENCY	$f_{osc}$	-	5	-	MHZ	
*LED BACKLIGHT	VOLTAGE	$I_f=160mA$	$V_f$	3.4	3.6	V
	CURRENT	-	$I_f$	160	-	mA
	POWER CONSUMPTION	-	PD	720	-	mW
	BACKLIGHT SURFACE	$I_f=160mA$	L	160	200	cd/m <sup>2</sup>
	COLOR (X=0.31,Y=0.32)	-	-	-	550	nm

\*ONLY APPLIES TO MODULES WITH BACKLIGHT

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

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

NOTE (3): RECOMMENDED LCD DRIVING VOLTAGE MAY FLUCTUATE ABOUT  $\pm 1.0V$  BY EACH MODULE.

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

\*UNLESS OTHERWISE SPECIFIED TOLERANCES PER DECIMAL PRECISION ARE: X= $\pm 1$  ( $\pm 0.039$ ), XX= $\pm 0.5$  ( $\pm 0.020$ ), XXX= $\pm 0.25$  ( $\pm 0.010$ ), XXXX= $\pm 0.127$  ( $\pm 0.005$ ). LEAD SIZE= $\pm 0.05$  ( $\pm 0.002$ ), LEAD LENGTH= $\pm 0.75$  ( $\pm 0.030$ ), MIN.= +DECIMAL PRECISION -0.00, MAX.= +0.00 -DECIMAL PRECISION

REV. A	PART NUMBER LCM-H240128GSN-1W
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240 x 128 DOT MATRIX GRAPHIC MODULE, STN BLUE, NEGATIVE IMAGE, TRANSMISIVE, WHITE LED BACKLIGHT, HIGH OPERATING TEMP, 1/128 DUTY, 12:00 VIEW.

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