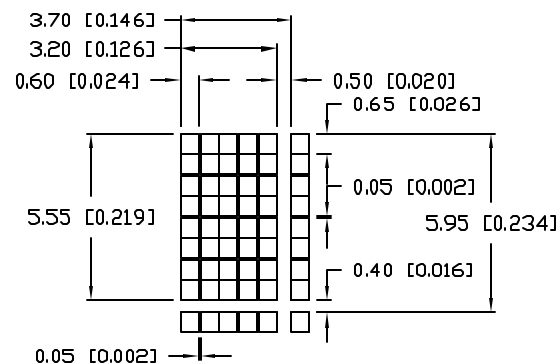
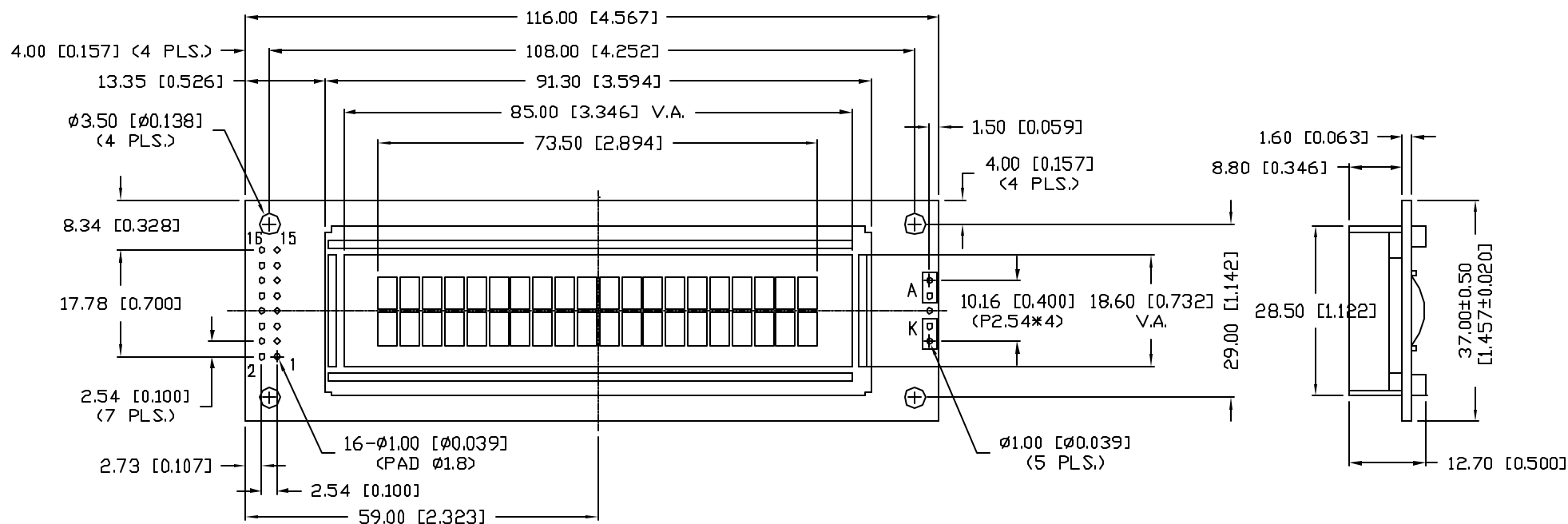


CHARACTER DETAIL



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 -0.00 MAX.= +0.00 -DECIMAL PRECISION

REV.

PART NUMBER

LCM-S02002DSM-1W

20 x 2 CHARACTER MODULE, 5 x 8 DOT MATRIX,
STN BLUE, TRANSMISSIVE, WHITE LED BACKLIGHT,
0°C TO 50°C OPERATING TEMPERATURE, 12:00 VIEW.

CONFIDENTIAL INFORMATION

THE INFORMATION CONTAINED IN THIS DOCUMENT IS THE PROPERTY OF LUMEX INC. EXCEPT AS SPECIFICALLY AUTHORIZED IN WRITING BY LUMEX INC., THE HOLDER OF THIS DOCUMENT SHALL KEEP ALL INFORMATION CONTAINED HEREIN CONFIDENTIAL AND SHALL PROTECT SAME IN WHOLE OR IN PART FROM DISCLOSURE AND DISSEMINATION TO ALL THIRD PARTIES.

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.



290 E. HELEN ROAD
PALATINE, IL 60067-6976
PHONE: +1.847.359.2790
US WEB: www.lumex.com
TW WEB: www.lumex.com.tw

DRAWN BY:

JD

CHECKED BY:

APPROVED BY:

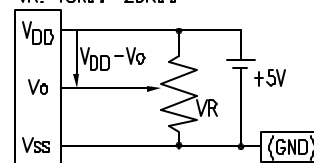
DATE: 4.3.06

PAGE: 1 OF 2

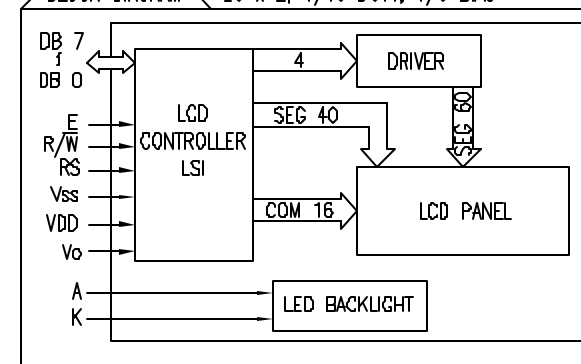
SCALE: N/A

PIN CONFIGURATION				
PIN NO.	SYMBOL	LEVEL	FUNCTION	
1	V _{SS}	—	POWER SUPPLY	GND (0V)
2	V _{DD}	—		5V
3	V _O	—		FOR LCD DRIVE
4	RS	H/L	REGISTER SELECT SIGNAL H: DATA INPUT L: INSTRUCTION INPUT	
5	R/W	H/L	H: DATA READ (MODULE-->MPU) L: DATA WRITE (MODULE<--MPU)	
6	E	H,H->L	ENABLE	
7~14	DB0~DB7	H/L	DATA BUS—SOFTWARE SELECTABLE 4 OR 8 BIT MODE.	
15	A	3.4V	ANODE	LED BACKLIGHT
16	K	GND	CATHODE	LED BACKLIGHT

V_{DD}-V_O: LCD DRIVING VOLTAGE
VR: 10KΩ-20KΩ



BLOCK DIAGRAM 20 x 2, 1/16 DUTY, 1/5 BIAS



ELECTRICAL CHARACTERISTICS			V _{DD} =4.7V to 5.3V, T _A =25°C			
ITEM	SYMBOL	CONDITION	STANDARD VALUE			UNIT
SUPPLY VOLTAGE FOR LOGIC	V _{DD} -V _{SS}	—	MIN.	TYP.	MAX.	
SUPPLY CURRENT FOR LOGIC	I _{DD}	V _{DD} =5V	—	2.0	3.0	mA
INPUT VOLTAGE	HIGH	V _{IH}	—	2.2	—	V _{DD} V
	LOW	V _{IL}	—	0	—	0.8 V
OUTPUT VOLTAGE	HIGH	V _{OH}	—	2.4	—	V
	LOW	V _{OL}	—	—	—	0.4 V
LED BACKLIGHT	VOLTAGE	V _F	I _F =40mA	—	3.4	3.6 V
	CURRENT	I _F	—	—	40	50 mA
	POWER CONSUMPTION	PD	—	—	136	180 mW
	LUMINOUS	L	I _F =40mA	60	100	— cd/m ²
	COLOR	—	—	—	WHITE	—

ABSOLUTE MAXIMUM RATINGS

ITEM	SYMBOL	TEST CONDITION	STANDARD VALUE		UNIT
SUPPLY VOLTAGE FOR LOGIC	V _{DD} -V _{SS}	T _a =25°C	MIN	MAX	
SUPPLY VOLTAGE FOR LCD DRIVE	V _{DD} -V _O	—	4.2@50°C	4.8@0°C	V
INPUT VOLTAGE	V _I	T _a =25°C	V _{SS}	V _{DD}	V
OPERATING TEMPERATURE	T _{opr}	—	0	50	°C
STORAGE TEMPERATURE	T _{stg}	—	-20	70	°C

*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

LCM-S02002DSM-1W

20 x 2 CHARACTER MODULE, 5 x 8 DOT MATRIX,
STN BLUE, TRANSMISSIVE, WHITE LED BACKLIGHT,
0°C TO 50°C OPERATING TEMPERATURE, 12:00 VIEW.

CONFIDENTIAL INFORMATION

THE INFORMATION CONTAINED IN THIS DOCUMENT IS THE PROPERTY OF LUMEX INC. EXCEPT AS SPECIFICALLY AUTHORIZED IN WRITING BY LUMEX INC., THE HOLDER OF THIS DOCUMENT SHALL KEEP ALL INFORMATION CONTAINED HEREIN CONFIDENTIAL AND SHALL PROTECT SAME IN WHOLE OR IN PART FROM DISCLOSURE AND DISSEMINATION TO ALL THIRD PARTIES.

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.



290 E. HELEN ROAD
PALATINE, IL 60067-6976
PHONE: +1.847.359.2790
US WEB: www.lumex.com
TW WEB: www.lumex.com.tw

DRAWN BY:

CHECKED BY:

APPROVED BY:

JD

DATE: 4.3.06

PAGE: 2 OF 2

SCALE: N/A