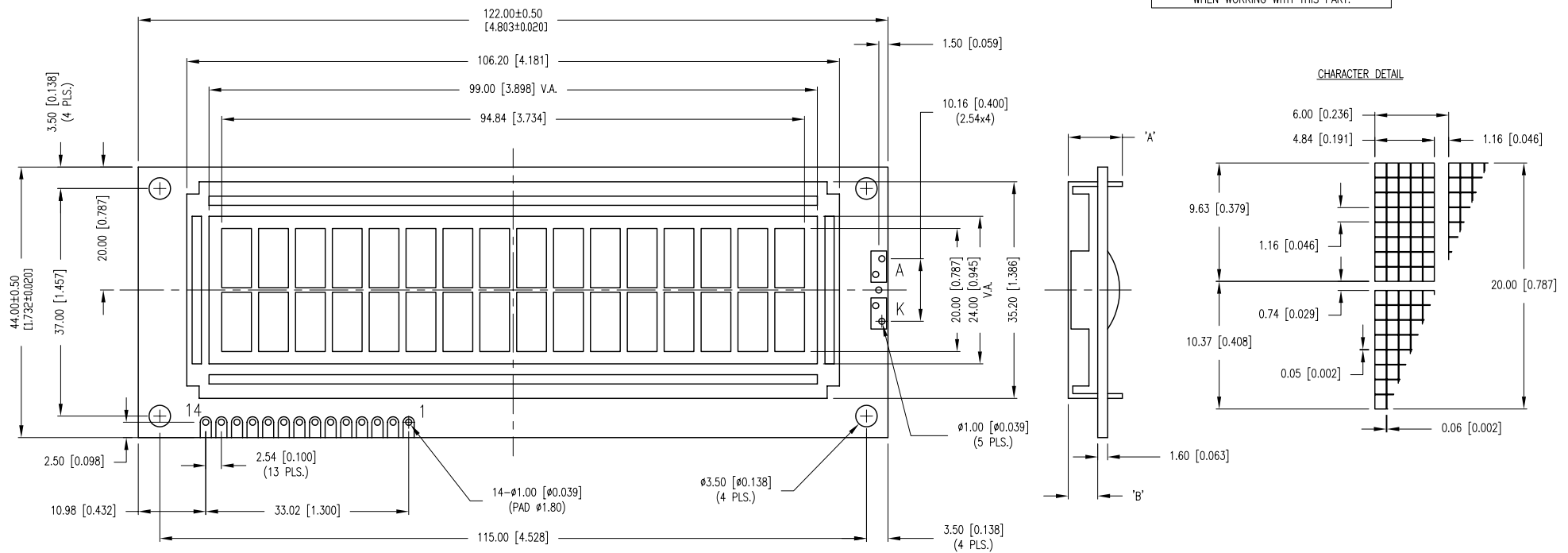


PART NUMBER	LCM-X01602DXX/D	REV.	A
DATE	E.C.N. NUMBER AND REVISION COMMENTS		REV.
10.09.98	E.C.N. #10464.		A

P/N PREFIX/SUFFIX TABLE		
LCM-X	DXX	DESCRIPTION
STANDARD	SR	STN, REFLECTIVE
	SF	STN, TRANSFLECTIVE(W/ BACKLIGHT)
	TR	TN, REFLECTIVE
HIGH TEMP.	TF	TN, TRANSFLECTIVE(W/ BACKLIGHT)

TYPE	DIM.	A	B
WITH BACKLIGHT	13.0	9.0	
NO BACKLIGHT	8.8	4.8	

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



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

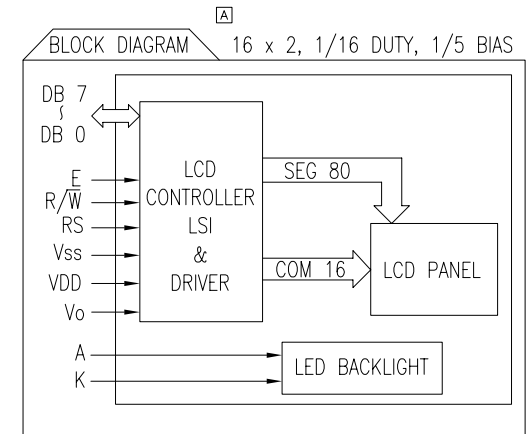
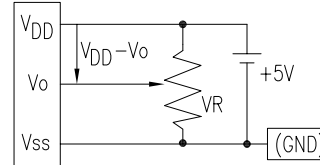
UNCONTROLLED DOCUMENT

 290 E. HELEN ROAD PALATINE, IL 60067-6976 PHONE: +1.847.359.2790 FAX: +1.847.359.6538 WEB: WWW.LUMEX.COM	9.63mm CHARACTER HEIGHT, 16x2 CHARACTERS, 5x8 DOT MATRIX LCD MODULE, 1/16 DUTY, 1/5 BIAS.	DATE: 01.28.11	DRAWN BY: AB
	THE SPECIFICATIONS MAY CHANGE AT ANY TIME WITHOUT NOTICE DUE TO NEW MATERIALS OR PRODUCT IMPROVEMENT.	PAGE: 1 OF 2	CHKD BY: YA
	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.	SCALE: NTS	APRVD BY: BC
		UNIT: mm [INCH]	Ⓢ

PART NUMBER	LCM-X01602DXX/D	REV.	A
DATE	E.C.N. NUMBER AND REVISION COMMENTS		REV.
10.09.98	E.C.N. #10464.		A

PIN CONFIGURATION			
PIN NO.	SYMBOL	LEVEL	FUNCTION
1	V _{SS}	—	POWER SUPPLY GND (0V)
2	V _{DD}	—	
3	V _O	—	
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	—	ANODE LED BACKLIGHT
16	K	—	CATHODE LED BACKLIGHT

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



ELECTRICAL CHARACTERISTICS		[A] 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	—	5.0	—	V	
INPUT VOLTAGE	HIGH	V _{IH}	—	2.2	—	V	
	LOW	V _{IL}	—	0	—	V	
OUTPUT VOLTAGE	HIGH	V _{OH}	—	2.4	—	V	
	LOW	V _{OL}	—	—	0.4	V	
*LED BACKLIGHT	VOLTAGE	V _f	I _f =220mA	—	4.2	4.6	V
	CURRENT	I _f	—	—	220	480	mA
	POWER CONSUMPTION	PD	—	—	924	—	mW
	LUMINOUS	L	I _f =220mA	70	—	—	cd/m ²
	COLOR	—	—	—	—	—	nm

*ONLY APPLIES TO MODULES WITH BACKLIGHT

ABSOLUTE MAXIMUM RATINGS					
ITEM	SYMBOL	TEST CONDITION	STANDARD VALUE		UNIT
SUPPLY VOLTAGE FOR LOGIC	V _{DD} -V _{SS}	T _a =25°C	4.7	5.3	V
SUPPLY VOLTAGE FOR LCD DRIVE	V _{DD} -V _O	—	4.2V@50°C	4.8@0°C	V
INPUT VOLTAGE	V _r	T _a =25°C	V _{SS}	V _{DD}	V
OPERATING TEMPERATURE	T _{opr}	LCM-S	0	50	°C
		LCM-H	-20	70	°C
STORAGE TEMPERATURE	T _{stg}	LCM-S	-20	70	°C
		LCM-H	-30	85	°C

*UNLESS OTHERWISE SPECIFIED TOLERANCES PER DECIMAL PRECISION ARE: X=±1 (±0.039), X.X=±0.5 (±0.020), X.XX=±0.25 (±0.010), X.XXX=±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

UNCONTROLLED DOCUMENT

	290 E. HELEN ROAD PALATINE, IL 60067-6976 PHONE: +1.847.359.2790 FAX: +1.847.359.6538 WEB: WWW.LUMEX.COM	9.63mm CHARACTER HEIGHT, 16x2 CHARACTERS, 5x8 DOT MATRIX LCD MODULE, 1/16 DUTY, 1/5 BIAS.	DATE: 01.28.11	DRAWN BY: AB
			PAGE: 1 OF 2	CHKD BY: YA
			SCALE: NTS	APRVD BY: BC
			UNIT: mm [INCH]	Ⓢ

THE SPECIFICATIONS MAY CHANGE AT ANY TIME WITHOUT NOTICE DUE TO NEW MATERIALS OR PRODUCT IMPROVEMENT.

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.