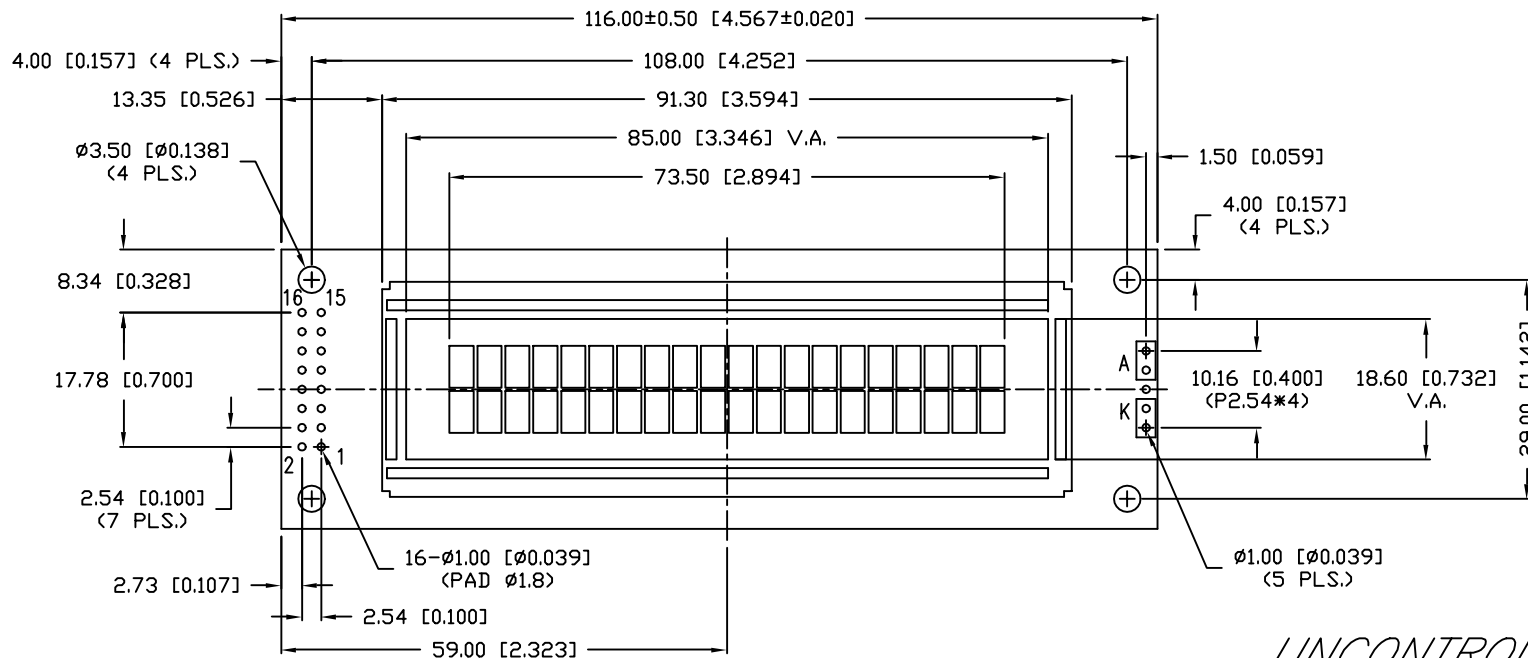
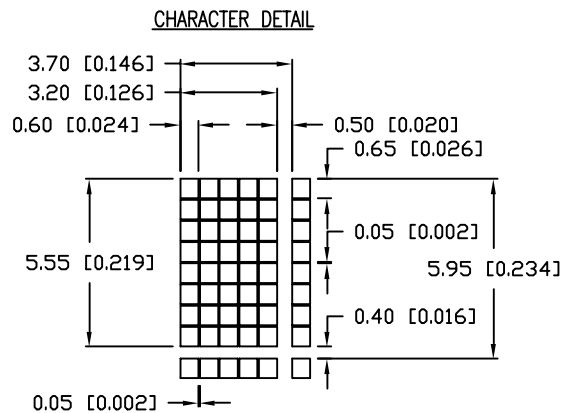


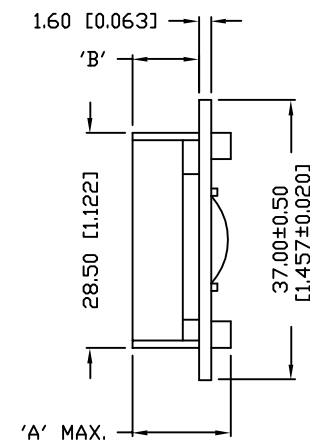
UNCONTROLLED DOCUMENT

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

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



TYPE	DIM.	A	B
WITH BACKLIGHT	12.7	8.8	
NO BACKLIGHT	8.9	4.8	



UNCONTROLLED DOCUMENT

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

REV.	PART NUMBER
B	LCM-X02002DXX

5.55mm CHARACTER HEIGHT, 5 x 8 DOT MATRIX,
20 x 2 LCD MODULE, 1/16 DUTY, 1/5 BIAS.

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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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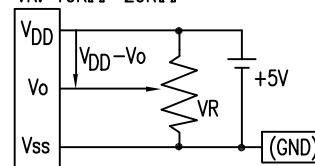
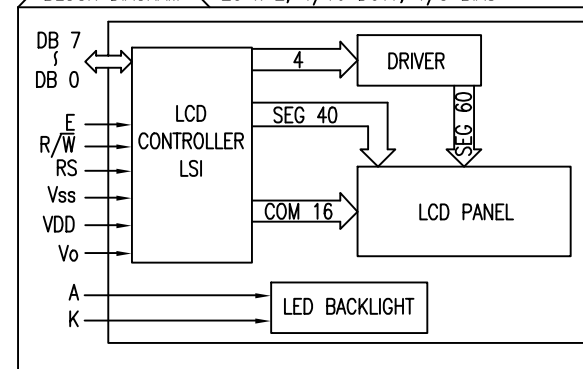
290 E. HELLEN ROAD
PALATINE, ILLINOIS 60067
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SA/BC			PAGE: 1 OF 2
			SCALE: N/A

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	-	ANODE	LED BACKLIGHT
16	K	-	CATHODE	LED BACKLIGHT

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

BLOCK DIAGRAM ^A 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
			MIN.	TYP.	MAX.	
SUPPLY VOLTAGE FOR LOGIC	V _{DD} -V _{SS}	-	-	5.0	-	V
SUPPLY CURRENT FOR LOGIC	I _{DD}	V _{DD} =5V	-	2.0	3.0	mA
INPUT VOLTAGE	HIGH LOW	V _{IH}	-	2.2	-	V _{DD}
		V _{IL}	-	0	-	0.6
OUTPUT VOLTAGE	HIGH LOW	V _{OH}	-	2.4	-	V
		V _{OL}	-	-	0.4	V
*LED BACKLIGHT	VOLTAGE	V _f	I _f =210mA	-	4.2	4.6
	CURRENT	I _f	-	-	210	mA
	POWER CONSUMPTION	PD	-	-	882	mW
	LUMINOUS	L	I _f =210mA	70	-	cd/m ²
	COLOR	-	-	-	-	nm

*ONLY APPLIES TO MODULES WITH BACKLIGHT

ABSOLUTE MAXIMUM RATINGS ^A

ITEM	SYMBOL	TEST CONDITION	STANDARD VALUE		UNIT
			MIN	MAX	
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	-	4.2@50°C	4.8@0°C	V
INPUT VOLTAGE	V _I	T _a =25°C	V _{SS}	V _{DD}	V
OPERATING TEMPERATURE	Topr	LCM-S	0	50	°C
		LCM-H	-20	70	°C
STORAGE TEMPERATURE	Tstg	LCM-S	-20	70	°C
		LCM-H	-30	85	°C

REV.

B

PART NUMBER

LCM-X02002DXX

5.55mm CHARACTER HEIGHT, 5 x 8 DOT MATRIX,
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