

UNCONTROLLED DOCUMENT

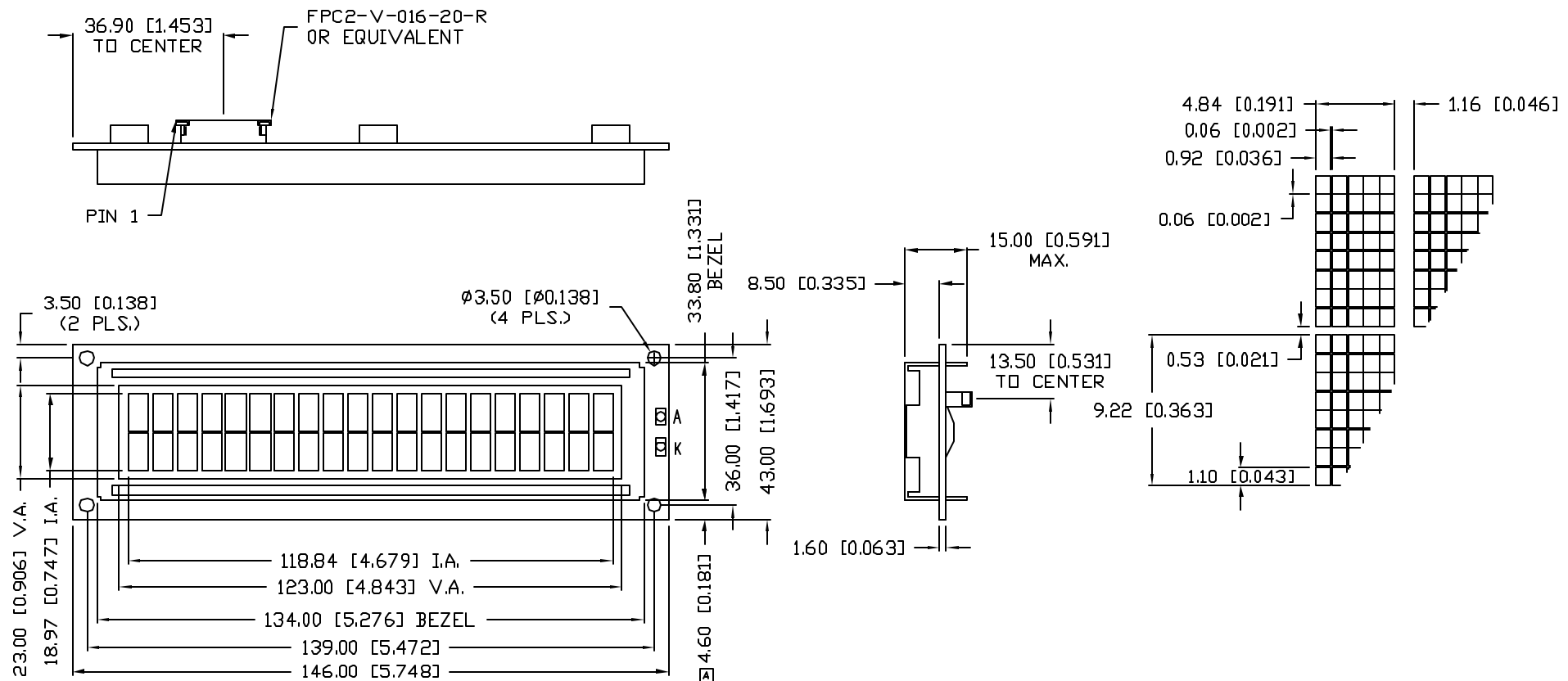
PART NUMBER

LCM-H02002DSF/G-Y

REV.

B

REV.	E.C.N. NUMBER AND REVISION COMMENTS	DATE
A	E.C.N. #11029.	9.2.03
B	E.C.N. #11148.	4.19.07



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

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*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}

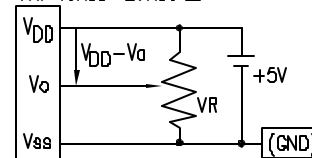
REV. B	PART NUMBER LCM-H02002DSF/G-Y	CONFIDENTIAL INFORMATION THE INFORMATION CONTAINED IN THIS DOCUMENT IS THE PROPERTY OF LUMEX INC. EXCEPT AS SPECIFICALLY AUTHORIZED IN WRITING BY LUMEX INC., THE HOLDER OF THIS DOCUMENT SHALL KEEP ALL INFORMATION CONTAINED HEREIN CONFIDENTIAL AND SHALL PROTECT SAME IN WHOLE OR IN PART FROM DISCLOSURE AND DISSEMINATION TO ALL THIRD PARTIES.		290 E. HELEN ROAD PALATINE, IL 60067-6976 PHONE: +1.847.359.2790 US WEB: www.lumex.com TW WEB: www.lumex.com.tw			
9.22mm CHARACTER HEIGHT, 20 X 2 CHARACTERS, FPC CONNECTOR, STN YELLOW, LED BACKLIGHT, 1/16 DUTY, 1/5 BIAS.		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: JC	CHECKED BY:	APPROVED BY:	DATE: 9.13.02 PAGE: 1 OF 2 SCALE: N/A

PIN CONFIGURATION

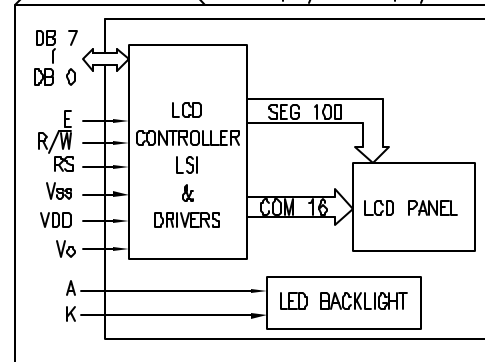
PIN NO.	SYMBOL	LEVEL	FUNCTION
1	V _{SS}	-	POWER SUPPLY
2	V _{DD}	-	
3	V _O	-	
4	RS	H/L	REGISTER SELECT SIGNAL H: DATA INPUT L: INSTRUCTION INPUT
5	R/W	H/L	H: DATA READ (MODULE-->MPU) L: DATA WRITE (MODULE<--MPU)
6	E	H,H->L	ENABLE
7~14	DB0~DB7	H/L	DATA BUS—SOFTWARE SELECTABLE 4 OR 8 BIT MODE.
15	A	-	ANODE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

V_{DD}-V_O: LCD DRIVING VOLTAGE

VR: 10KΩ~20KΩ □



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	
				MIN.	TYP.	MAX.		
SUPPLY VOLTAGE FOR LOGIC		$V_{DD}-V_{SS}$	—	—	5.0	—	V	
SUPPLY VOLTAGE FOR LCD DRIVE		$V_{DD}-V_O$	—	—	4.6	—	V	
SUPPLY CURRENT FOR LOGIC		I_{DD}	$V_{DD}=5V$	—	2.0	3.0	mA	
INPUT VOLTAGE	HIGH	V_{IH}	—	2.2	—	4.7	V	
	LOW	V_{IL}	—	0	—	0.6	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

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	-	-0.3	13.5	V
INPUT VOLTAGE	V _I	T _a =25°C	V _{SS}	V _{DD}	V
OPERATING TEMPERATURE	T _{opr}	LCM-H	-20	70	°C
STORAGE TEMPERATURE	T _{stg}	LCM-H	-30	80	°C

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9.22mm CHARACTER HEIGHT, 20 X 2 CHARACTERS,
FPC CONNECTOR,
STN YELLOW, LED BACKLIGHT, 1/16 DUTY, 1/5 BIAS.

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RELIABILITY NOTE

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