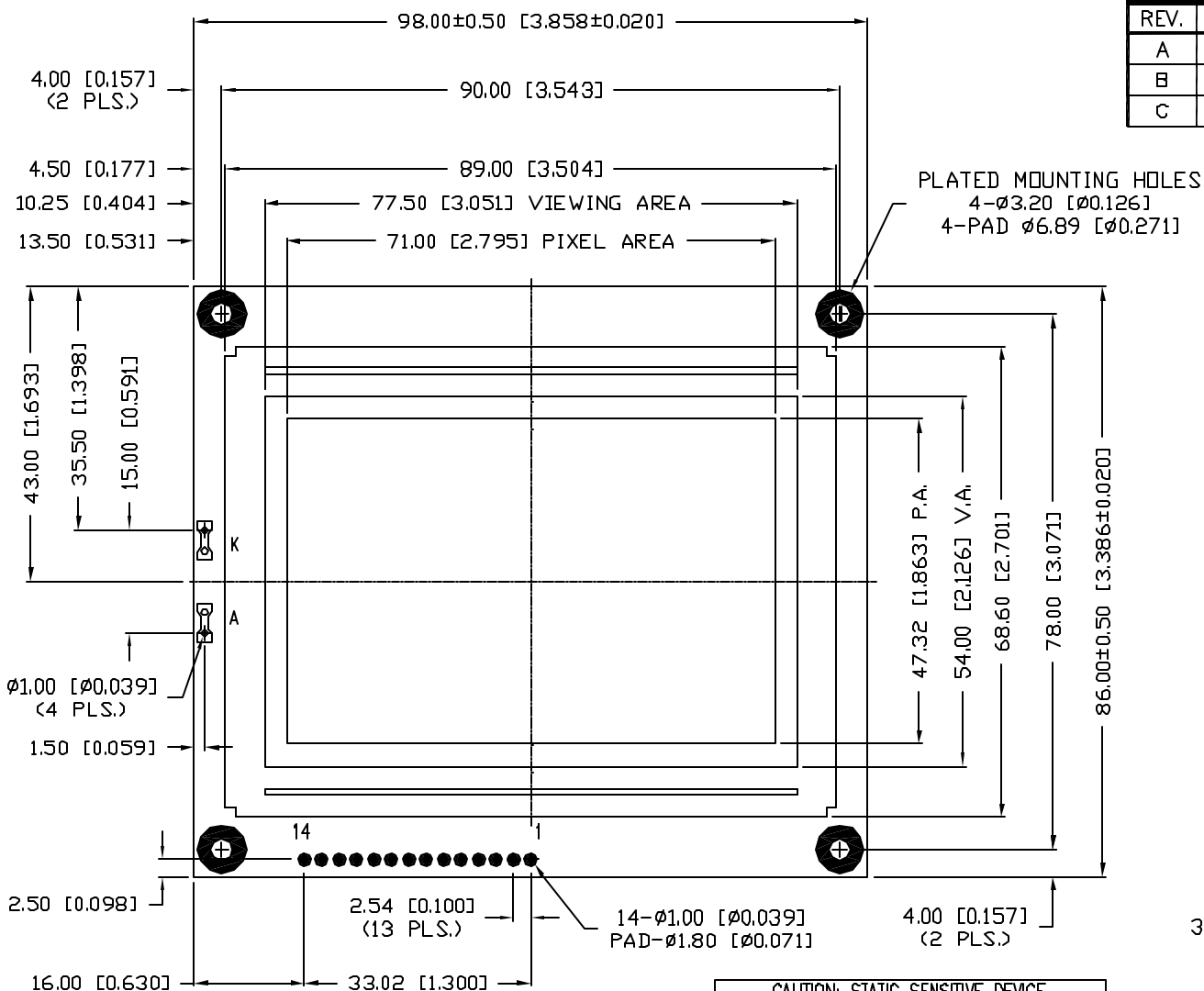


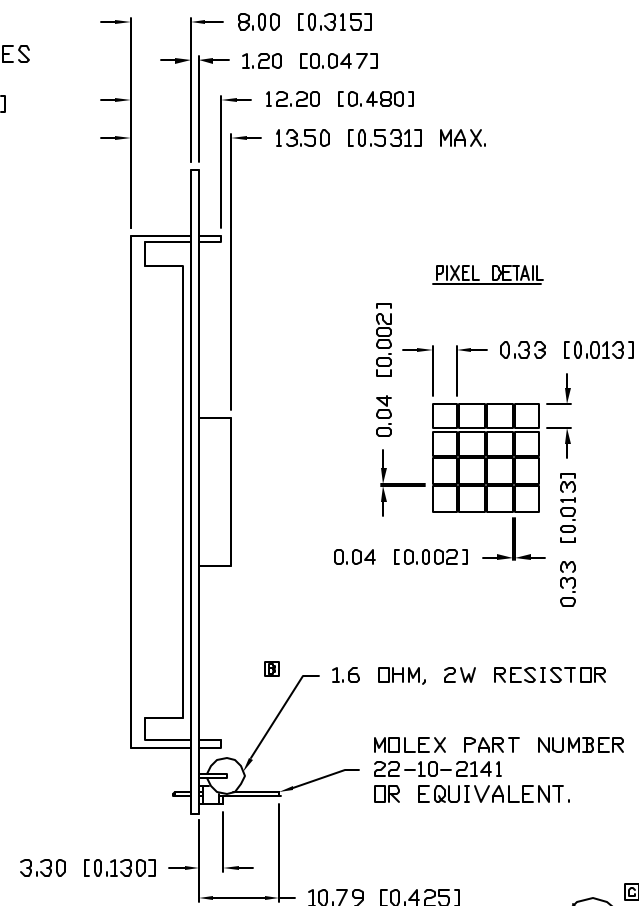
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CAUTION: STATIC SENSITIVE DEVICE
FOLLOW PROPER E.S.D. HANDLING PROCEDURES
WHEN WORKING WITH THIS PART.

*UNLESS OTHERWISE SPECIFIED TOLERANCES PER DECIMAL PRECISION ARE: X=±1 (±0.039), 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

PART NUMBER		REV.
LCM-H192128GSF-Y		C
REV.	E.C.N. NUMBER AND REVISION COMMENTS	DATE
A	E.C.N. #E10578.	12-20-99
B	E.C.N. #E10596.	2-23-00
C	E.C.N. #E11148.	5.2.07



UNCONTROLLED DOCUMENT

REV.	PART NUMBER	CONFIDENTIAL INFORMATION		LUMEX		290 E. HELEN ROAD PALATINE, IL 60067-6976 PHONE: +1.847.359.2790 US WEB: www.lumex.com TW WEB: www.lumex.com.tw	
C	LCM-H192128GSF-Y	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.		DRAWN BY: JC	
192 x 128 GRAPHIC MODULE, STN, TRANSFLECTIVE, YELLOW BACKGROUND, LED BACKLIGHT NO CONTROLLER, EXTENDED OPERATING TEMPERATURE.				CHECKED BY:		APPROVED BY: DATE: 11.29.99 PAGE: 1 OF 1 SCALE: N/A	

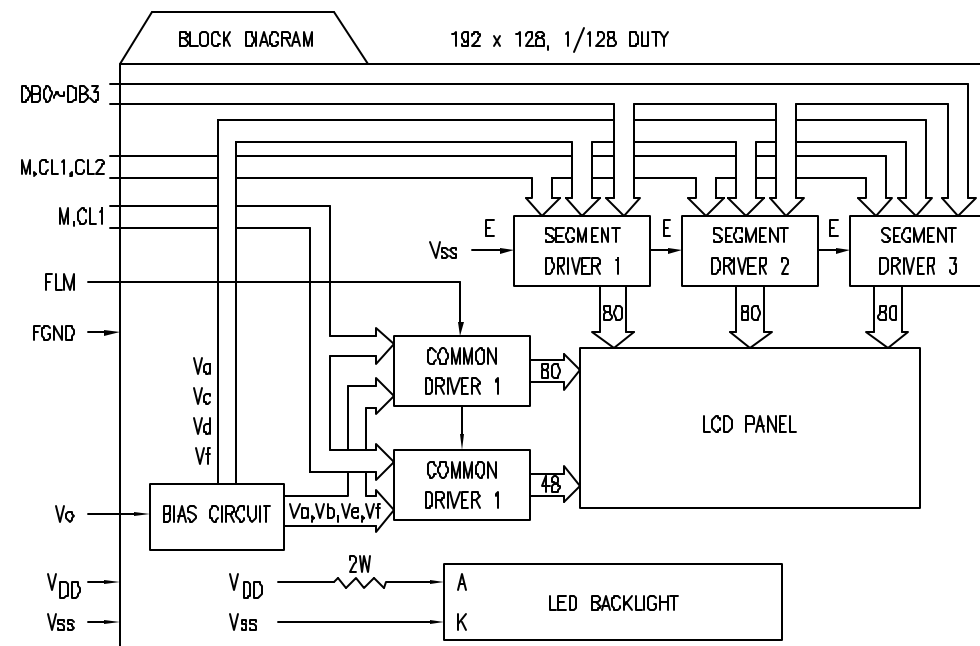
PIN CONFIGURATION

PIN NO.	SYMBOL	FUNCTION
1	D3	DATA LINE
2	D2	DATA LINE
3	FLM	THE FLM SIGNAL INDICATES THE BEGINNING OF EACH DISPLAY CYCLE
4	M	ALTERNATION CONTROL SIGNAL
5	CL1	DATA LATCH CLOCK PULSE
6	CL2	DATA SHIFT CLOCK PULSE
7	D1	DATA LINE
8	D0	DATA LINE
9	V _{DD}	POWER SUPPLY (+5V)
10	V _{SS}	POWER SUPPLY (GND)
11	V _O	LCD CONTRAST VOLTAGE
12	FGND	FRAME GROUND
13	N/C	NO CONNECTION
14	N/C	NO CONNECTION
LED BACKLIGHT	A	ANODE CONNECTED TO V _{DD} PIN #9
LED BACKLIGHT	K	CATHODE CONNECTED TO V _{SS} PIN #10

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}	-	4.5	5.0	5.5	V
SUPPLY CURRENT FOR LOGIC	I _{DD}	V _{DD} =5V	-	3.0	4.5	mA
INPUT VOLTAGE	HIGH	V _{IH}	-	0.8*V _{DD}	-	V
	LOW	V _{IL}	-	0	0.2*V _{DD}	V
OUTPUT VOLTAGE	HIGH	V _{OH}	-	V _{DD} -0.4	-	V
	LOW	V _{OL}	-	-	0.4	V
LED BACKLIGHT	VOLTAGE	V _f	I _f =640	-	5V	V
	CURRENT	I _f	-	-	640	mA
	POWER CONSUMPTION	P _D	-	-	3.2	W
	LUMINOUS	L	I _f =640	-	-	cd/m ²
	DOMINANT WAVELENGTH	λ _D	I _f =20	-	573	nm



NOTE: 1.6 OHM 5% 2W RESISTOR MOUNTED ON THE PCB FOR LED BACKLIGHT.
SMT RESISTOR VALUES FOR VOLTAGE DIVIDER ON PCB: R1=R2=R4=R5=2.42kΩ, R3=20.3kΩ

ABSOLUTE MAXIMUM RATINGS

ITEM	SYMBOL	TEST CONDITION	STANDARD VALUE		UNIT
			MIN	MAX	
SUPPLY VOLTAGE FOR LOGIC	V _{DD} -V _{SS}	T _a =25°C	0	7	V
SUPPLY VOLTAGE FOR LCD DRIVE	V _{DD} -V _O	-	0	20	V
INPUT VOLTAGE	V _I	T _a =25°C	-0.3	V _{DD} +0.3	V
OPERATING TEMPERATURE	T _{opr}	LCM-H	-20	70	°C
STORAGE TEMPERATURE	T _{stg}	LCM-H	-30	80	°C

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RELIABILITY NOTE

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DRAWN BY:

JG

CHECKED BY:

APPROVED BY:

DATE: 11.29.99

PAGE: 1 OF 1

SCALE: N/A

Mouser Electronics

Authorized Distributor

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