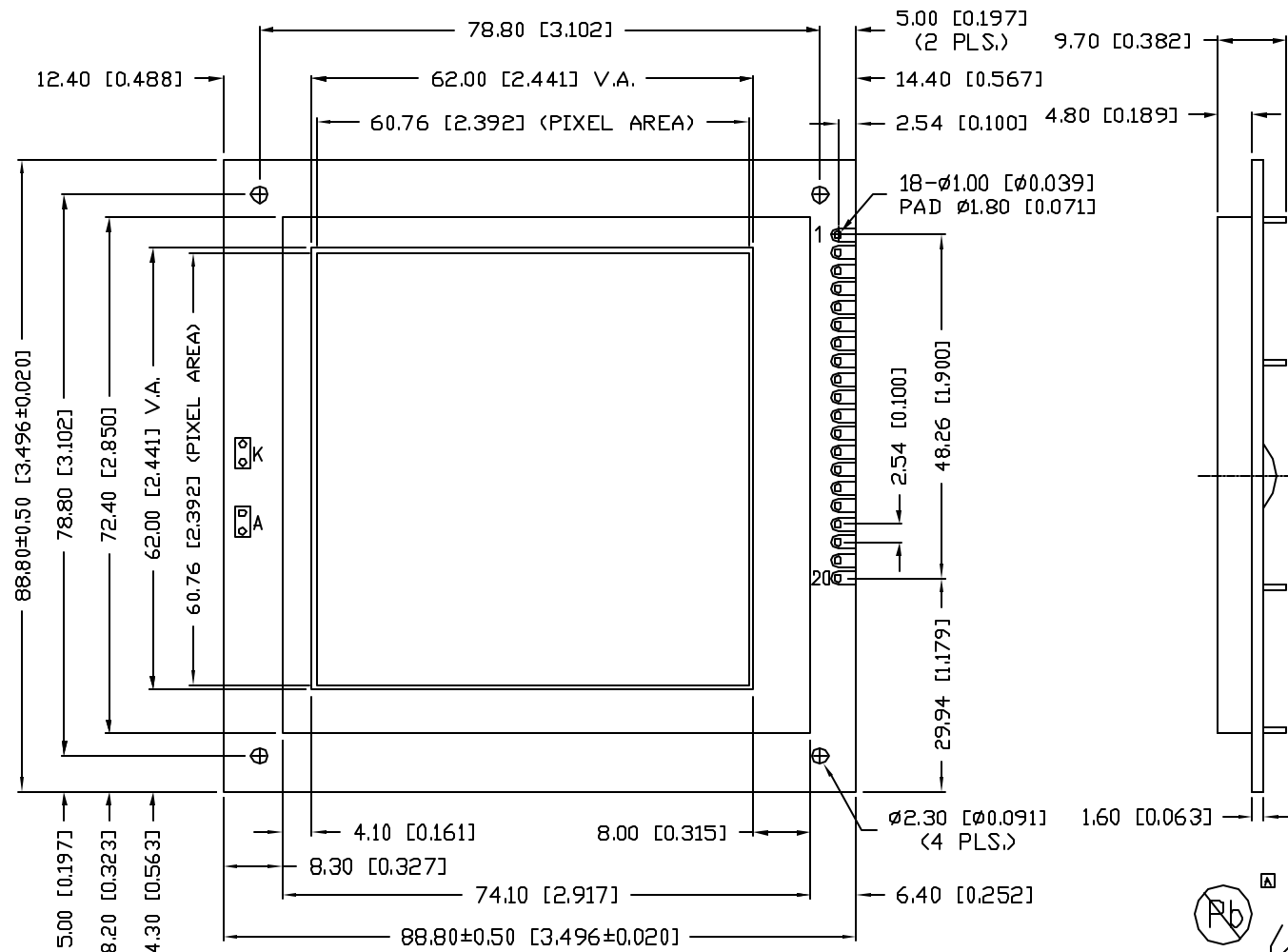


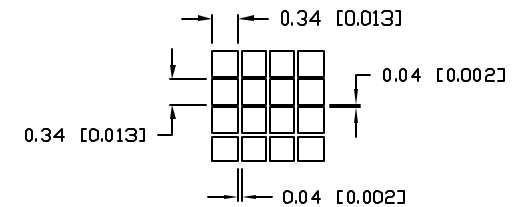
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PART NUMBER
LCM-H160160GWF-NBKREV.
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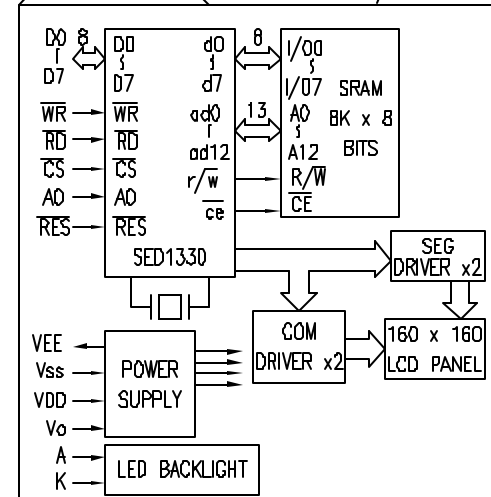
REV.	E.C.N. NUMBER AND REVISION COMMENTS	DATE
A	E.C.N. #11148.	4.20.07



PIXEL DETAIL



BLOCK DIAGRAM 160 x 160, 1/160 DUTY



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.

A

PART NUMBER

LCM-H160160GWF-NBK

160 x 160 DOT MATRIX GRAPHIC MODULE,
1/160 DUTY, FSTN WITH NEGATIVE CHARGE PUMP.
TRANSFLECTIVE, NO BACKLIGHT.

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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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PAGE: 1 OF 2

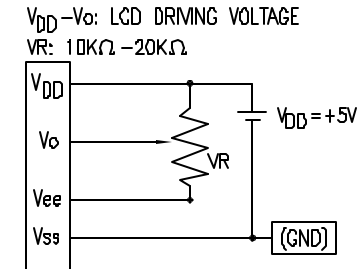
SCALE: N/A

REV.	E.C.N. NUMBER AND REVISION COMMENTS	DAT
A	SEE PAGE #1	

PIN CONFIGURATION			
PIN NO.	SYMBOL	LEVEL	FUNCTION
1	V _{SS}	0V	GND
2	V _{DD}	5V	SUPPLY VOLTAGE FOR LOGIC
3	V _O	-	CONTRAST VOLTAGE FOR LCD DRIVE(VARIABLE)
4	RD	L	READ SIGNAL
5	WR	L	WRITE SIGNAL
6	CS	L	CHIP SELECT
7	A0	H/L	DATA TYPE SELECT
8~15	DB0~DB7	H/L	DATA BUS
16	RES	L	RESET SIGNAL (NOTE 1)
17	VEE	-	POWER SUPPLY VOLTAGE FOR LCD
18	A	4.2V	NO CONNECTION
19	K	-	NO CONNECTION
20	(N/C)	-	NO CONNECTION

NOTES:

1. RES IS A SCHMITT TRIGGER INPUT. THE PULSEWIDTH ON RES MUST BE AT LEAST 200 μ s. PULSES OF MORE THAN A FEW SECONDS WILL CAUSE DC VOLTAGES TO BE APPLIED TO THE LCD PANEL.



ELECTRICAL CHARACTERISTICS		V _{DD} =4.75V to 5.25V, T _A =25°C					
ITEM		SYMBOL	CONDITION	STANDARD VALUE			UNIT
				MIN.	TYP.	MAX.	
SUPPLY VOLTAGE FOR LOGIC		V _{DD} -V _{SS}	-	4.75	5.0	5.25	V
SUPPLY VOLTAGE FOR LCD DRIVE		V _{DD} -V _{EE}	-	-	18.2	-	V
SUPPLY CURRENT FOR LOGIC		I _{DD}	-	-	-	20	mA
INPUT VOLTAGE	HIGH	V _{IH}	-	0.2	-	V _{DD}	V
	LOW	V _{IL}	-	0	-	0.8	V
OUTPUT VOLTAGE	HIGH	V _{OH}	I _{OH} =-3.0mA	2.4	-	-	V
	LOW	V _{OL}	I _{OL} =3.0mA	-	-	0.4	V
*LED BACKLIGHT	VOLTAGE	V _f	I _f =560mA	-	4.2	4.5	V
	CURRENT	I _f	-	-	560	-	mA
	POWER CONSUMPTION	P _D	-	-	2.8	-	W
	LUMINOUS	L	I _f =560mA	60	-	-	cd/m ²
	COLOR	-	-	-	570	-	nm

*ONLY APPLIES TO MODULES WITH BACKLIGHT

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	7.0	V
SUPPLY VOLTAGE FOR LCD DRIVE	V _{DD} -V _{EE}	-	17.2@40°C	19.2@0°C	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	85	°C

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			SCALE: N/A