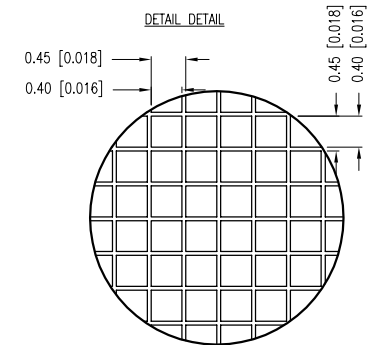
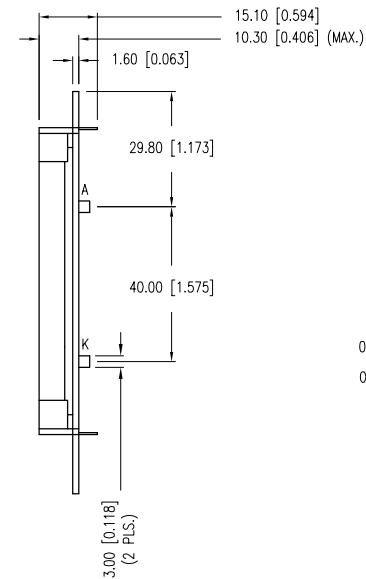
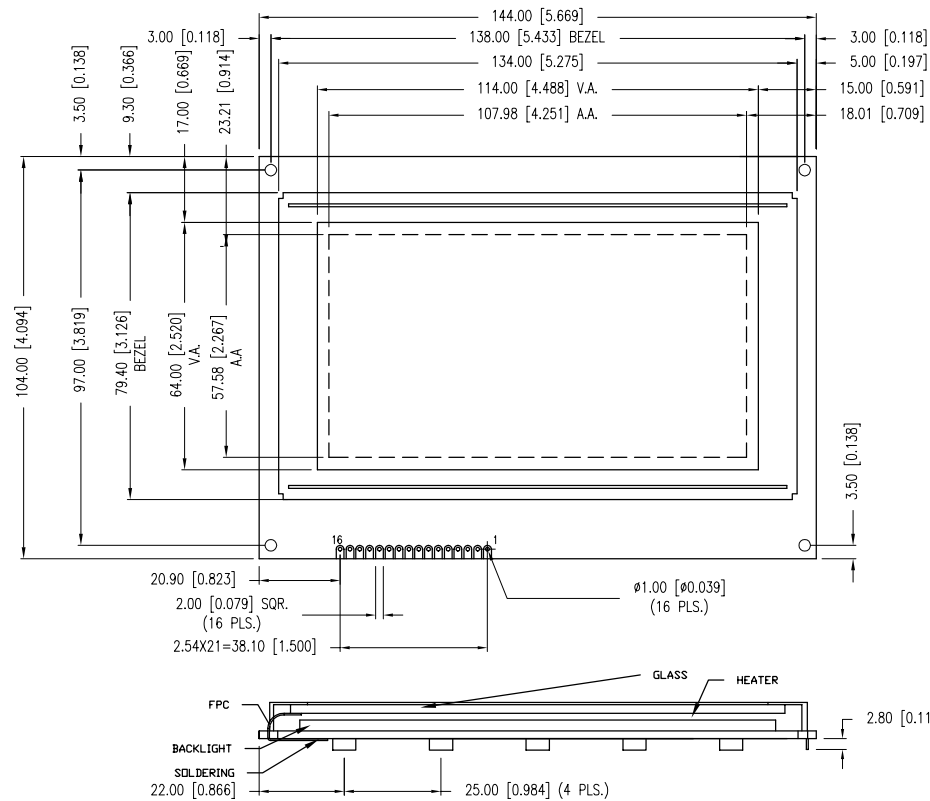




*UNLESS OTHERWISE SPECIFIED TOLERANCES PER DECIMAL PRECISION ARE: X=±1 (±0.039), X.X=±0.5 (±0.020), X.XX=±0.25 (±0.010), X.XXX=±0.127 (±0.005). LEAD SIZE=±0.05 (±0.002), LEAD LENGTH=±0.75 (±0.030). MIN.= +DECIMAL PRECISION MAX.= +0.00 -DECIMAL PRECISION

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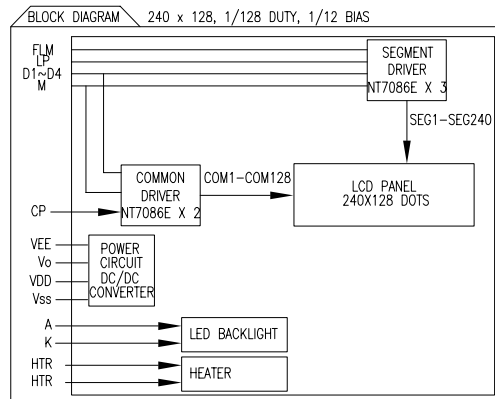
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240x128 GRAPHIC LCD MODULE, FSTN, TRANSFLECTIVE, WHITE LED BACKLIGHT, W/HEATER, 6:00 VIEW, VLCD=18.0V.

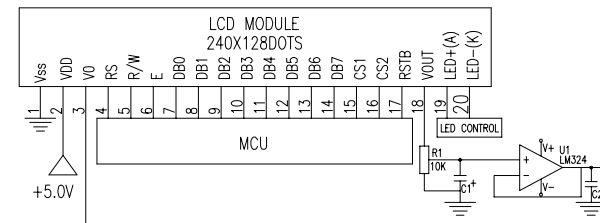
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DATE:	04.01.10	DRAWN BY:	JN
PAGE:	1 OF 2	CHKD BY:	YA
SCALE:	NTS	APRVD BY:	BC
UNIT:	mm [INCH]		(Pb)

**NOTES:**

1. R1 IS THE CONTRAST RESISTOR.
2. VOUT=-10.0V
3. ADJUST R1 TO GET GOOD CONTRAST. TYP: VO IS -13.0V.

**ABSOLUTE MAXIMUM RATINGS**

ITEM	SYMBOL	TEST CONDITION	STANDARD VALUE		UNIT
SUPPLY VOLTAGE FOR LOGIC	$V_{DD}-V_{SS}$	$T_a=25^{\circ}\text{C}$	MIN	MAX	
SUPPLY VOLTAGE FOR LCD DRIVE	V_{LCD}	-	0	30	V
INPUT VOLTAGE	V_{IN}	$T_a=25^{\circ}\text{C}$	-0.3	$V_{DD}+0.3$	V
OPERATING TEMPERATURE	T_{opr}	W/ HEATER	-40	+85	$^{\circ}\text{C}$
STORAGE TEMPERATURE	T_{stg}	W/ HEATER	-40	+85	$^{\circ}\text{C}$

PIN CONFIGURATION

PIN NO.	SYMBOL	FUNCTION
1	FLM	FIRST LINE MAKER
2	M	CONTROL SIGNAL FOR AC DRIVING
3	LP	COMMON DRIVER DATA SHIFT SIGNAL
4	CP	CLOCK PULSE FOR SEGMENT SHIFT REGISTER
5	V_{DD}	POWER SUPPLY
6	V_{SS}	GROUND
7	V_{EE}	POWER SUPPLY VOLTAGE FOR LCD
8	D1_SID	DATA BIT INPUT/OUTPUT
9	D2_DL	
10	D3_DM	
11	D4_DR	
12	V_o	CONTRAST ADJUSTMENT VOLTAGE
13	LED+ (A)	ANODE OF LED
14	LED- (K)	CATHODE OF LED
15	HTR +	POWER SUPPLY FOR HEATER +12V
16	HTR -	POWER SUPPLY FOR HEATER GND

ELECTRICAL CHARACTERISTICS $V_{DD}=2.7\text{V to }5.5\text{V}, T_A=25^{\circ}\text{C}$

ITEM	SYMBOL	CONDITION	STANDARD VALUE			UNIT
			MIN.	TYP.	MAX.	
SUPPLY VOLTAGE FOR LOGIC	$V_{DD}-V_{SS}$	-	2.7	5.0	5.5	V
SUPPLY VOLTAGE FOR LCD DRIVE	$V_{DD}-V_o$	$V_{DD}=5\text{V}$	6.0	18.0	28.0	V
SUPPLY CURRENT FOR LOGIC	I_{DD}	$V_{DD}=5\text{V}$	-	8.2	13.0	mA
LED BACKLIGHT	VOLTAGE	$I_f=60\text{mA}$	-	5.0	-	V
	CURRENT	-	-	60	80	mA
	POWER CONSUMPTION	PD	-	192	-	mW
	LUMINOUS	L	-	150	-	cd/m ²
	COLOR	X	.260	-	.330	
	COORDINATE	Y	.260	-	.330	
HEATER	VOLTAGE	V_{TH}	-	12	-	V
	RESISTANCE	-	160	210	260	OHM
	CURRENT	I _H	40	60	80	mA
	POWER	PH	-	0.71	-	W

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