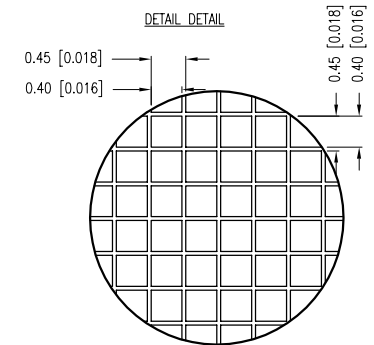
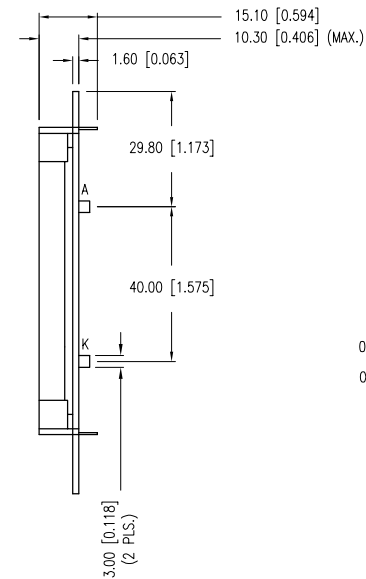
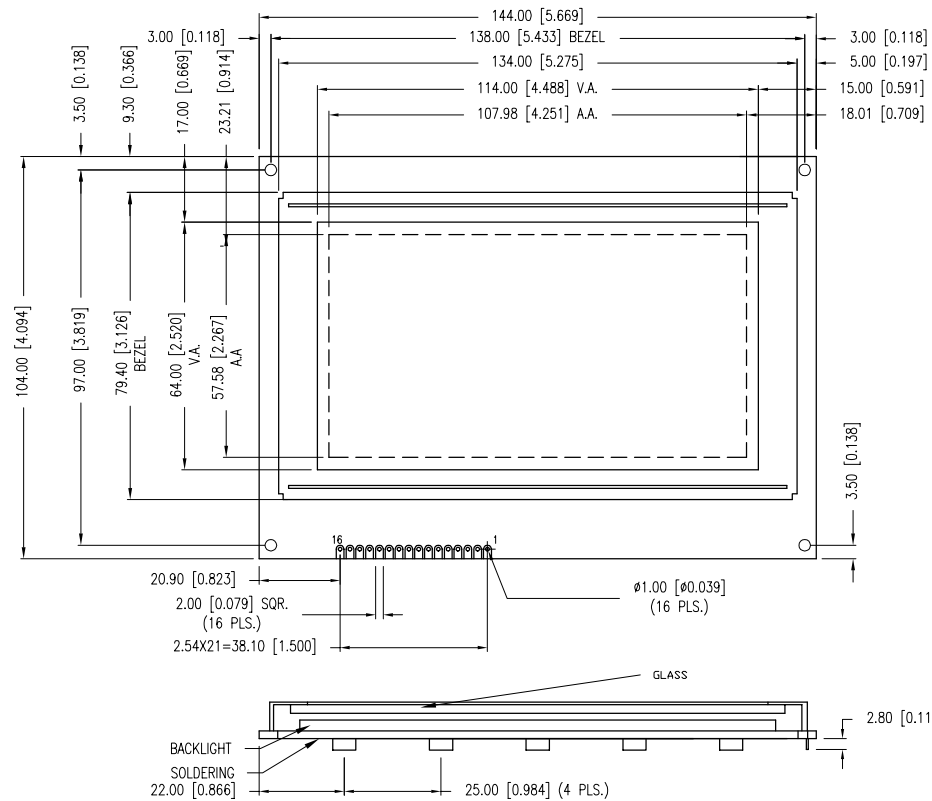




*UNLESS OTHERWISE SPECIFIED TOLERANCES PER DECIMAL PRECISION ARE: X=±1 (±0.039), X.X=±0.5 (±0.020), X.XX=±0.25 (±0.010), X.XXX=±0.127 (±0.005). LEAD SIZE=±0.05 (±0.002), LEAD LENGTH=±0.75 (±0.030). MIN.= $\frac{+DECIMAL PRECISION}{-0.00}$ MAX.= $\frac{+0.00}{-DECIMAL PRECISION}$

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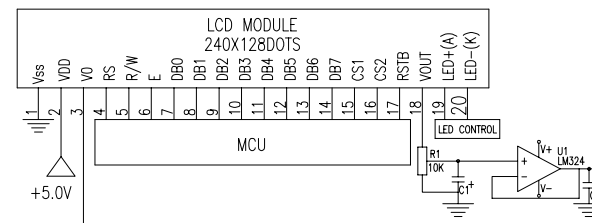
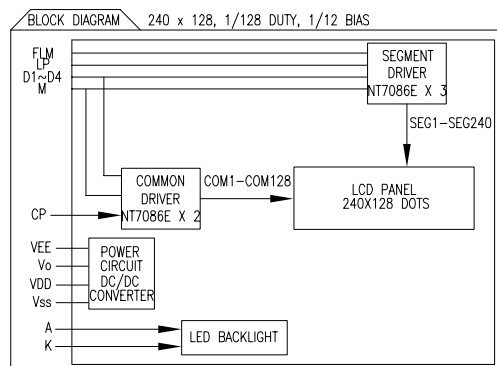
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240x128 GRAPHIC LCD MODULE, FSTN, TRANSFLECTIVE, WHITE LED BACKLIGHT, 6:00 VIEW, VLCD=18.OV.

THE SPECIFICATIONS MAY CHANGE AT ANY TIME WITHOUT NOTICE DUE TO NEW MATERIALS OR PRODUCT IMPROVEMENT.

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DATE:	07.25.11	DRAWN BY:	AB
PAGE:	1 OF 2	CHKD BY:	BC
SCALE:	NTS	APRVD BY:	KF
UNIT:	mm [INCH]		(Pb)

**NOTES:**

1. R1 IS THE CONTRAST RESISTOR.
2. VOUT=-10.0V
3. ADJUST R1 TO GET GOOD CONTRAST. TYP: V0 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	V
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	-30	+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	CONTRAST ADJUSTMENT VOLTAGE
12	V_o	
13	LED+ (A)	
14	LED- (K)	CATHODE OF LED
15	N/C	NO CONNECTION
16	N/C	NO CONNECTION

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
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	V_f	$I_f=60\text{mA}$	—	5.0	V
	CURRENT	I_f	—	60	80	mA
	POWER CONSUMPTION	PD	—	192	—	mW
	LUMINOUS	L	—	150	—	cd/m ²
	COLOR COORDINATE	X	WHITE	.260	.330	
		Y		.260	.330	
HEATER	VOLTAGE	V_{FH}	—	12	—	V
	RESISTANCE	—	160	210	260	OHM
	CURRENT	IH	—	40	60	mA
	POWER	PH	—	0.71	—	W

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