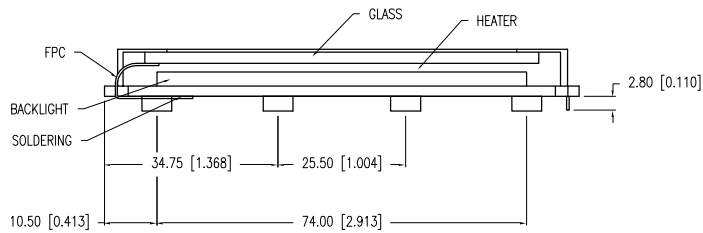
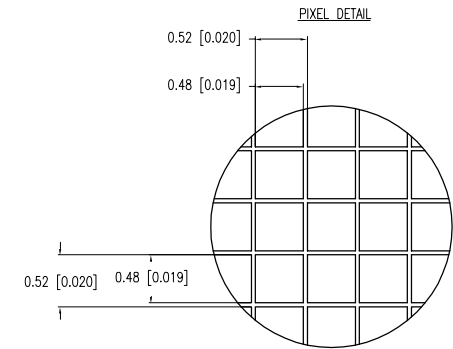
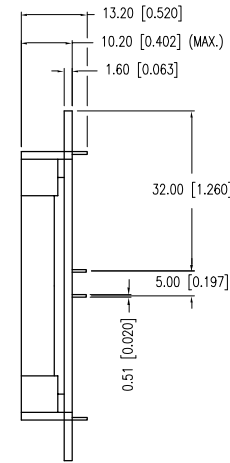
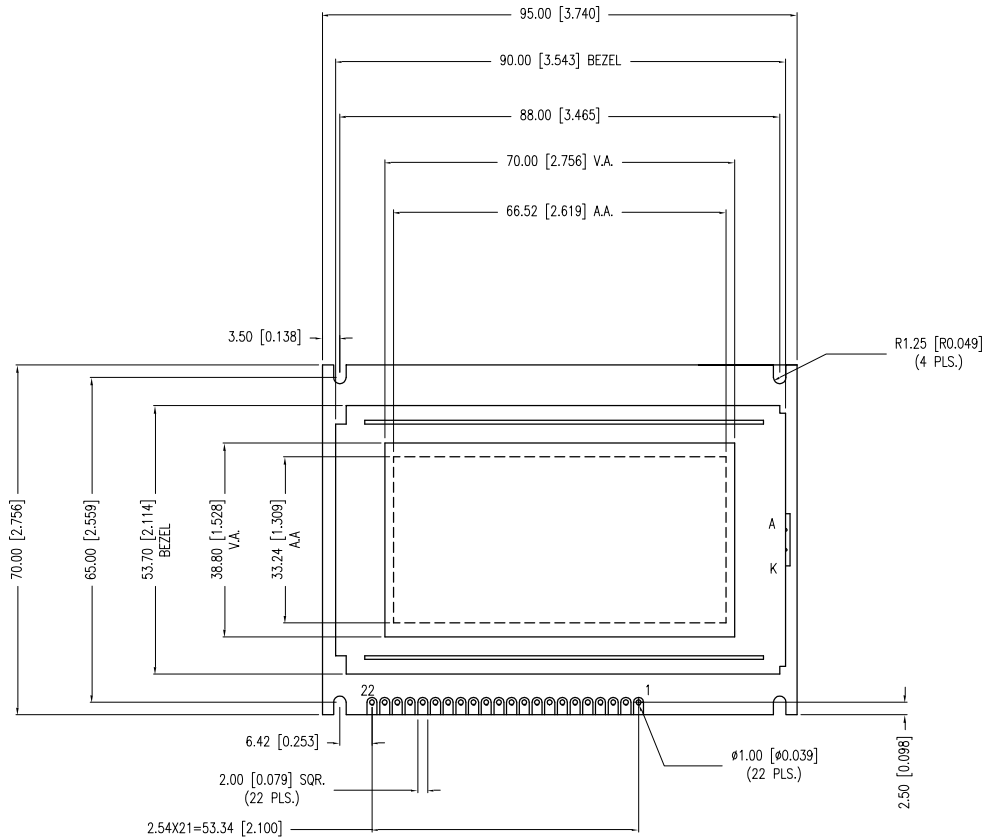


PART NUMBER	LCR-U12864GSF-WH	REV.	A
DATE	E.C.N. NUMBER AND REVISION COMMENTS		REV.
05.20.10	E.C.N. #11642.		A



\*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= <sup>+DECIMAL PRECISION</sup> -0.00 <sub>-DECIMAL PRECISION</sub> UNCONTROLLED DOCUMENT



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128 x 64 GRAPHIC LCD MODULE, STN GRAY, W/ HEATER, TRANSFLECTIVE, WHITE LED BACKLIGHT, 6:00 VIEW.

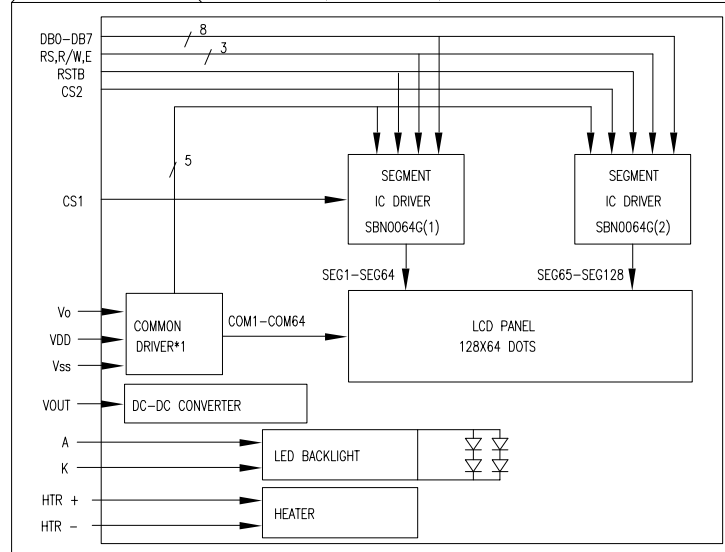
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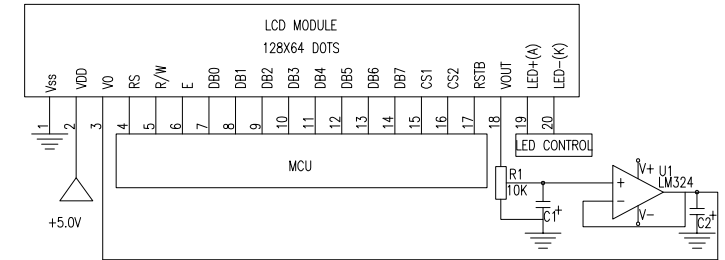
DATE:	11.24.09	DRAWN BY:	JN
PAGE:	1 OF 2	CHKD BY:	JD
SCALE:	N/A	APRVD BY:	SA
UNIT:	mm [INCH]		(R)

PART NUMBER	LCR-U12864GSF-WH	REV.	A
DATE	E.C.N. NUMBER AND REVISION COMMENTS		REV.
	SEE PAGE 1		

BLOCK DIAGRAM 128 x 64, 1/64 DUTY, 1/9 BIAS



- NOTES:  
 1. R1 IS THE CONTRAST RESISTOR.  
 2. VOUT=-10.0V  
 3. ADJUST R1 TO GET GOOD CONTRAST. TYP: V0 IS -7.9V.




ABSOLUTE MAXIMUM RATINGS					
ITEM	SYMBOL	TEST CONDITION	STANDARD VALUE		UNIT
			MIN	MAX	
SUPPLY VOLTAGE FOR LOGIC	$V_{DD}-V_{SS}$	$T_a=25^{\circ}C$	4.7	5.3	V
SUPPLY VOLTAGE FOR LCD DRIVE	$V_{DD}-V_0$	-	0	15	V
INPUT VOLTAGE	$V_I$	$T_a=25^{\circ}C$	$V_{SS}$	$V_{DD}$	V
OPERATING TEMPERATURE	$T_{opr}$	W/ HEATER	-40	+85	$^{\circ}C$
STORAGE TEMPERATURE	$T_{stg}$	W/ HEATER	-40	+85	$^{\circ}C$

PIN CONFIGURATION			
PIN NO.	SYMBOL	FUNCTION	
1	$V_{SS}$	POWER SUPPLY	GND (0V)
2	$V_{DD}$		5V
3	$V_0$		FOR LCD DRIVE
4	RS	REGISTER SELECT RS=0...INSTRUCTION REGISTER RS=1...DATA REGISTER	
5	R/W	READ/WRITE R/W=0...READ R/W=1...WRITE	
6	E	CHIP ENABLE SIGNAL	
7-14	DB0~DB7	DISPLAY DATA SIGNAL	
15	CS1	CHIP SELECT SIGNAL FOR SBN0064G(1)	
16	CS2	CHIP SELECT SIGNAL FOR SBN0064G(2)	
17	RSTB	CONTROL RESET (MODULE RESET)	
18	VOUT	OUTPUT VOTAGE FOR LCD DRIVING,-10.0V.	
19	LED- (A)	ANODE OF LED	
20	LED- (K)	CATHODE OF LED	
21	HTR +	+12V	
22	HTR -	GND (0V)	

ELECTRICAL CHARACTERISTICS							
$V_{DD}=4.7V$ to $5.3V$ , $T_A=25^{\circ}C$							
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 VOLTAGE FOR LCD DRIVE	$V_{DD}-V_0$	$V_{DD}=5V$	12.6	12.9	13.2	V	
SUPPLY CURRENT FOR LOGIC	$I_{DD}$	$V_{DD}=5V$	-	8.2	13.0	mA	
LED BACKLIGHT	VOLTAGE	$V_f$ If=30mA	-	6.4	7.2	V	
	CURRENT	$I_f$	-	30	-	mA	
	POWER CUNSUMPTION	PD	-	192	-	mW	
	LUMINOUS	L	-	70	-	$cd/m^2$	
	COLOR	X	WHITE	.260	-	.330	
	COORDINATE	Y		.260	-	.330	
HEATER	VOLTAGE	$V_{FH}$	-	12	20	V	
	RESISTANCE		-	160	210	OHM	
	CURRENT	$I_H$	-	40	60	mA	
	POWER	PH	-	0.5	0.7	0.9	W

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