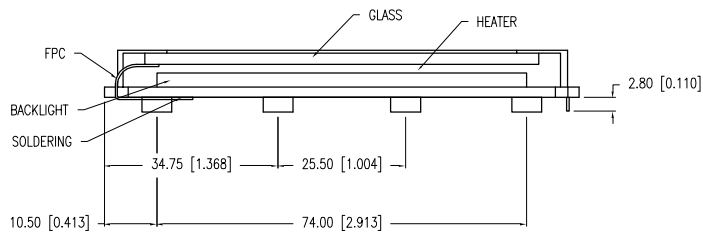
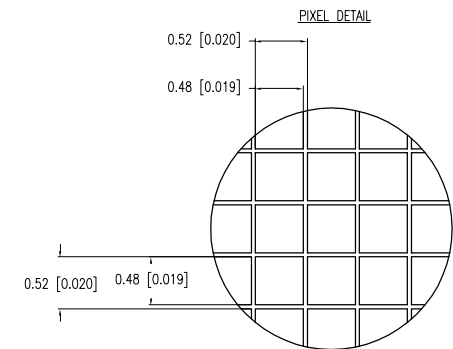
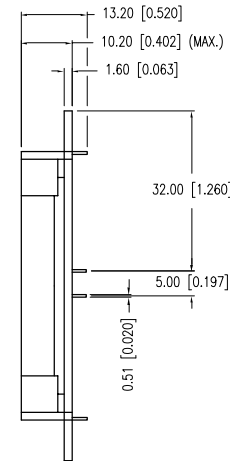
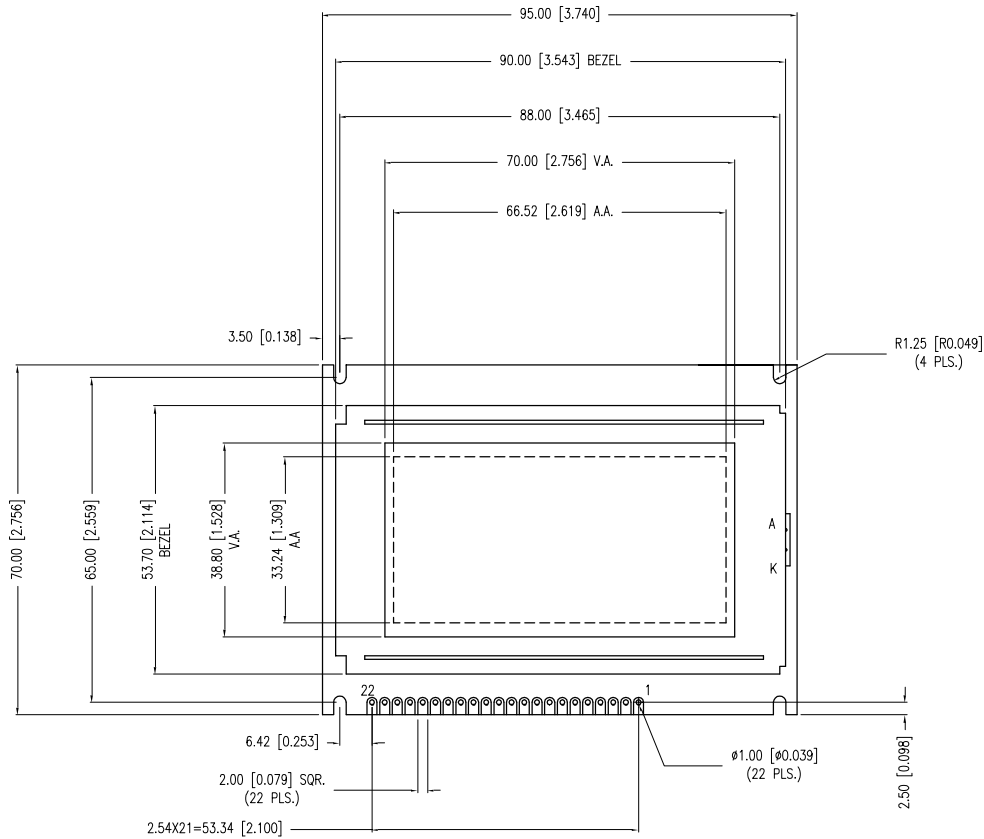


PART NUMBER	LCR-U12864GSF-WH	REV.	A
DATE	E.C.N. NUMBER AND REVISION COMMENTS		REV.
05.20.10	E.C.N. #11642.		A



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

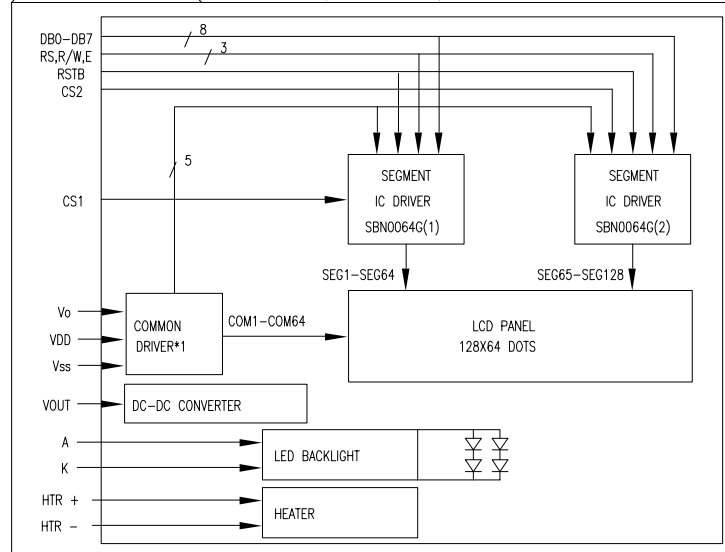
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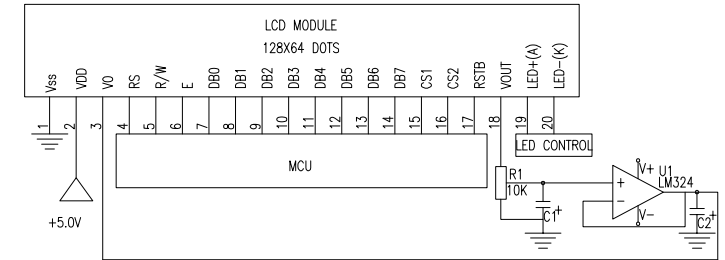
DATE:	11.24.09	DRAWN BY:	JN
PAGE:	1 OF 2	CHKD BY:	JD
SCALE:	N/A	APRVD BY:	SA
UNIT:	mm [INCH]		(R)

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	$V_{DD}-V_o$	-	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_o		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	$V_{DD}-V_o$	$V_{DD}=5V$	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 CONSUMPTION	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	W	

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