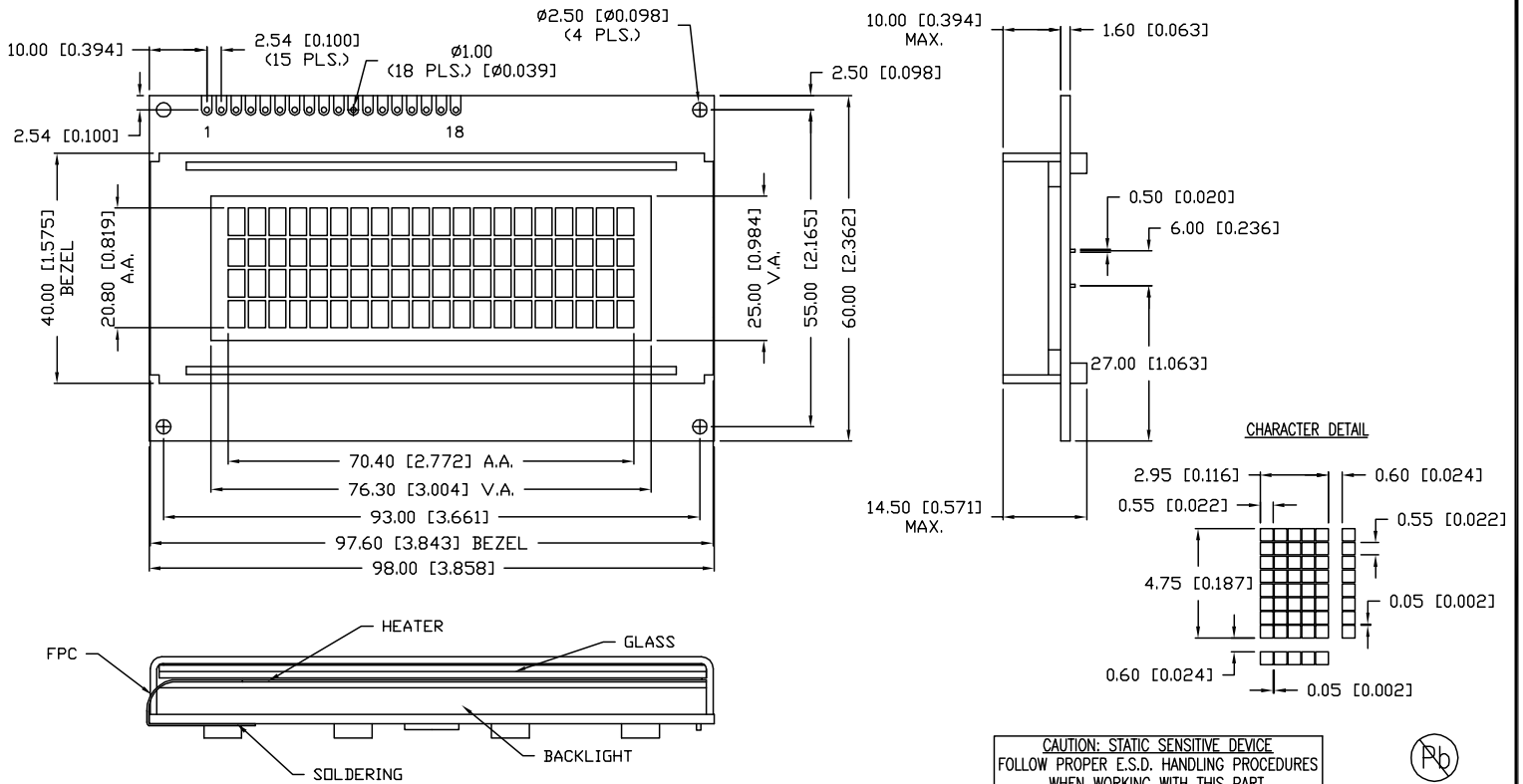


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*UNLESS OTHERWISE SPECIFIED TOLERANCES PER DECIMAL PRECISION ARE: X=±1 (±0.039), X.X=±0.5 (±0.020), X.XX=±0.25 (±0.010), X.XXX=±0.127 (±0.005). LEAD SIZE=±0.05 (±0.002), LEAD LENGTH=±0.75 (±0.030), MIN.=^{+DECIMAL PRECISION}_{-0.00} MAX.=^{+0.00}_{-DECIMAL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

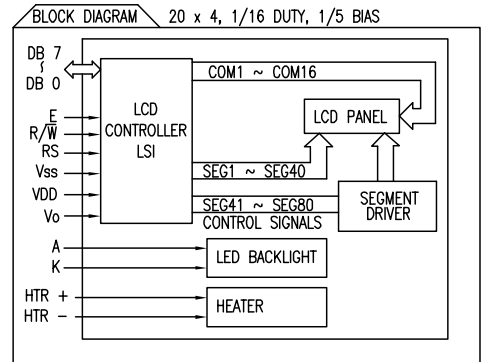
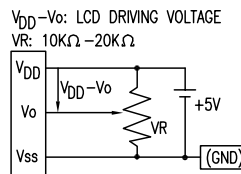
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	20 x 4 CHARACTER LCD MODULE, STN GRAY, -40°C TO +85°C OPERATING TEMPERATURE, W/ HEATER, TRANSFLECTIVE, WHITE LED BACKLIGHT, 6:00 VIEW.	RELIABILITY NOTE OUR MANY YEARS OF EXPERIENCE DATA ACCUMULATION INDICATE THAT SOLDER HEAT IS A MAJOR CAUSE OF EARLY AND FUTURE FAILURE. PLEASE PAY ATTENTION TO YOUR SOLDERING PROCESS.	DRAWN BY: JN	CHECKED BY: APPROVED BY: DATE: 11.23.09 PAGE: 1 OF 2 SCALE: N/A

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PIN CONFIGURATION			
PIN NO.	SYMBOL	LEVEL	FUNCTION
1	V _{SS}	-	POWER SUPPLY GND (0V)
2	V _{DD}	-	
3	V _O	-	
4	RS	H/L	REGISTER SELECT SIGNAL H: DATA INPUT L: INSTRUCTION INPUT
5	R/W	H/L	H: DATA READ (MODULE-->MPU) L: DATA WRITE (MODULE<--MPU)
6	E	H,H->L	ENABLE
7~14	DB0~DB7	H/L	DATA BUS--SOFTWARE SELECTABLE 4 OR 8 BIT MODE.
15	A	-	ANODE LED BACKLIGHT
16	K	-	CATHODE LED BACKLIGHT
17	HTR +	-	+12V
18	HTR -	-	GND (0V)



ELECTRICAL CHARACTERISTICS		V _{DD} =4.7V to 5.3V, T _A =25°C					
ITEM	SYMBOL	CONDITION	STANDARD VALUE			UNIT	
			MIN.	TYP.	MAX.		
SUPPLY VOLTAGE FOR LOGIC	V _{DD} -V _{SS}	-	-	5.0	-	V	
SUPPLY CURRENT FOR LOGIC	I _{DD}	V _{DD} =5V	-	1.6	2.5	mA	
INPUT VOLTAGE	HIGH	V _{IH}	-	2.2	-	V _{DD} V	
	LOW	V _{IL}	-	0	-	0.6 V	
OUTPUT VOLTAGE	HIGH	V _{OH}	-	2.4	-	V	
	LOW	V _{OL}	-	-	0.4	V	
LED BACKLIGHT	VOLTAGE	V _f	I _f =15mA	-	3.3	-	V
	CURRENT	I _f	-	-	30	40	mA
	POWER CONSUMPTION	P _D	-	-	99	-	mW
	LUMINOUS	L	I _f =15mA	70	-	-	cd/m ²
	COLOR COORDINATE	X	WHITE	.260	-	.330	
	Y	.260		-	.330		
HEATER	VOLTAGE	V _{fH}	-	-	12	-	V
	RESISTANCE	-	-	-	12.8	-	OHM
	CURRENT	I _H	-	-	0.94	-	AMP
	POWER	P _H	-	-	11.3	-	W

ABSOLUTE MAXIMUM RATINGS					
ITEM	SYMBOL	TEST CONDITION	STANDARD VALUE		UNIT
SUPPLY VOLTAGE FOR LOGIC	V _{DD} -V _{SS}	T _a =25°C	4.7	5.3	V
SUPPLY VOLTAGE FOR LCD DRIVE	V _{DD} -V _O	-	4.2@50°C	4.8@0°C	V
INPUT VOLTAGE	V _I	T _a =25°C	V _{SS}	V _{DD}	V
OPERATING TEMPERATURE	T _{opr}	W/ HEATER	-40	+85	°C
STORAGE TEMPERATURE	T _{stg}	W/ HEATER	-40	+85	°C

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