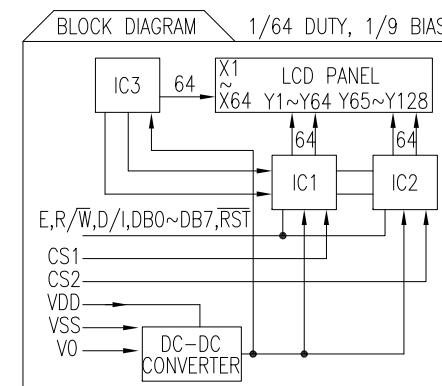
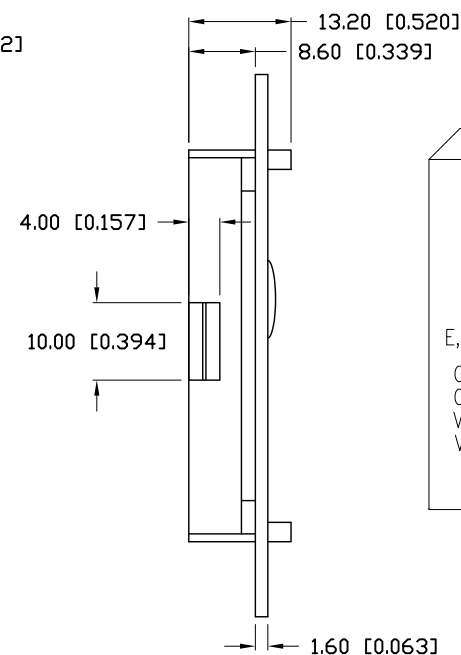
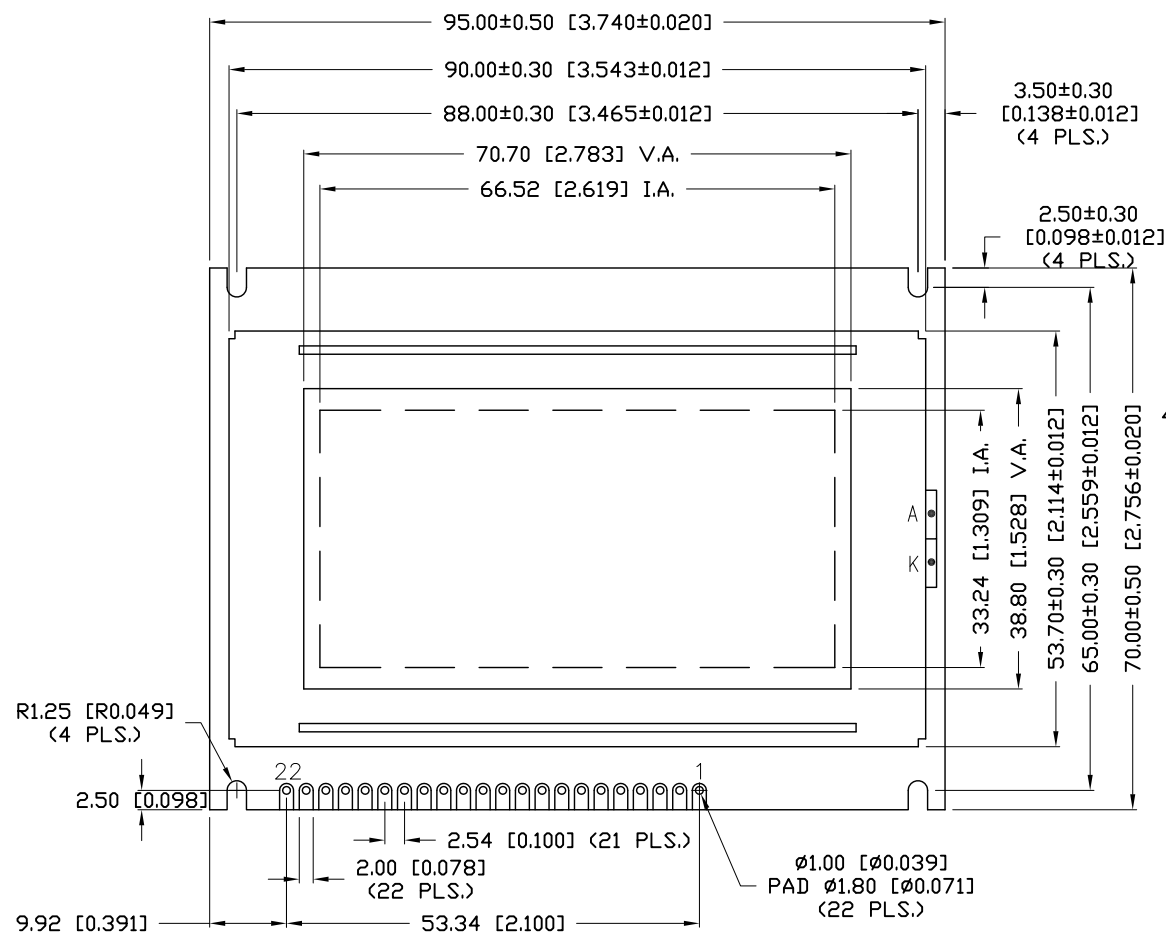
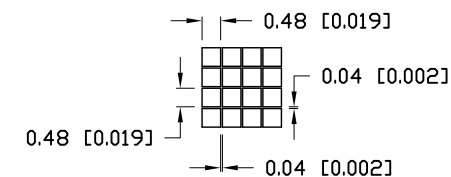


CAUTION: STATIC SENSITIVE DEVICE
FOLLOW PROPER E.S.D. HANDLING PROCEDURES
WHEN WORKING WITH THIS PART.

PIXEL DETAIL



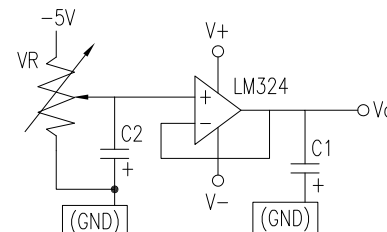
*UNLESS OTHERWISE SPECIFIED TOLERANCES PER DECIMAL PRECISION ARE: X=±1 (±0.039), X.X=±0.5 (±0.020), X.XX=±0.25 (±0.010), X.XXX=±0.127 (±0.005). LEAD SIZE=±0.05 (±0.002), LEAD LENGTH=±0.75 (±0.030). MIN.= +DECIMAL PRECISION MAX.= +0.00 -DECIMAL PRECISION

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PIN CONFIGURATION

PIN NO.	SYMBOL	LEVEL	FUNCTION	
1	V _{SS}	—	POWER SUPPLY	GND (0V)
2	V _{DD}	—		POWER SUPPLY VOLTAGE FOR LOGIC
3	V _O	—		FOR LCD DRIVE
4	D/I	H/L	REGISTER SELECT SIGNAL H: DATA INPUT L: INSTRUCTION INPUT	
5	R/ $\bar{W}$	H/L	H: DATA READ (MODULE $\rightarrow$ MPU) L: DATA WRITE (MODULE $\leftarrow$ MPU)	
6	E	H,H $\rightarrow$ L	ENABLE	
7~14	DB0~DB7	H/L	DATA BUS	
15	CS1	H/L	CHIP SELECTION SIGNAL FOR IC1	
16	CS2	H/L	CHIP SELECTION SIGNAL FOR IC2	
17	$\bar{RST}$	—	RESET SIGNAL (ACTIVE "LOW")	
18	V _{out}	—	OUTPUT VOLTAGE FOR LCD, -11.7V.	
19	A	—	ANODE	LED BACKLIGHT
20	K	—	CATHODE	LED BACKLIGHT
21	—	—	NO CONNECTION	
22	—	—	NO CONNECTION	

V_{DD}-V_O: LCD DRIVING VOLTAGE
VR:10K Ω



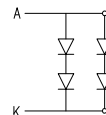
OPTIMUM CONTRAST WHEN V_O=-4.0V

ELECTRICAL CHARACTERISTICS

V_{DD}=4.75V to 5.25V, T_A=25°C

ITEM		SYMBOL	CONDITION	STANDARD VALUE			UNIT
				MIN.	TYP.	MAX.	
SUPPLY VOLTAGE FOR LOGIC		V _{DD} -V _{SS}	—	—	3.3	3.6	V
SUPPLY CURRENT FOR LOGIC		I _{DD}	V _{DD} =3.3V	—	TBD	—	mA
INPUT VOLTAGE	HIGH	V _{IH}	—	0.7*V _{DD}	—	V _{DD}	V
	LOW	V _{IL}	—	0	—	0.3*V _{DD}	V
*LED BACKLIGHT	VOLTAGE	V _f	I _f =20mA	3.4	4.0	4.6	V
	POWER CONSUMPTION	PD	—	—	—	92	mW
	LUMINOUS	L	I _f =20mA	—	10	—	cd/m ²
	PEAK WAVELENGTH	—	—	—	572	—	nm

*ONLY APPLIES TO MODULES WITH BACKLIGHT



ABSOLUTE MAXIMUM RATINGS

ITEM	SYMBOL	TEST CONDITION	STANDARD VALUE		UNIT
			MIN	MAX	
SUPPLY VOLTAGE FOR LOGIC	V _{DD} -V _{SS}	T _a =25°C	0.3	7.0	V
SUPPLY VOLTAGE FOR LCD DRIVE	V _{DD} -V _O	-20°C	13.4	14.8	V
		25°C	12.2	13.6	
		70°C	11.0	12.4	
INPUT VOLTAGE	V _I	T _a =25°C	V _{SS}	V _{DD}	V
OPERATING TEMPERATURE	T _{opr}	—	-30	80	°C
STORAGE TEMPERATURE	T _{stg}	—	-30	80	°C

*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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128x64 DOT MATRIX GRAPHIC MODULE,STN YELLOW,1/64 DUTY,1/9 BIAS,NO NEG CHARGE PUMP,TRANSL.,LED BKL.T.

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

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PAGE:	2 OF 2	CHKD BY:	KF
SCALE:	NTS	APRVD BY:	SS
UNIT:	mm [INCH]		Ⓢ