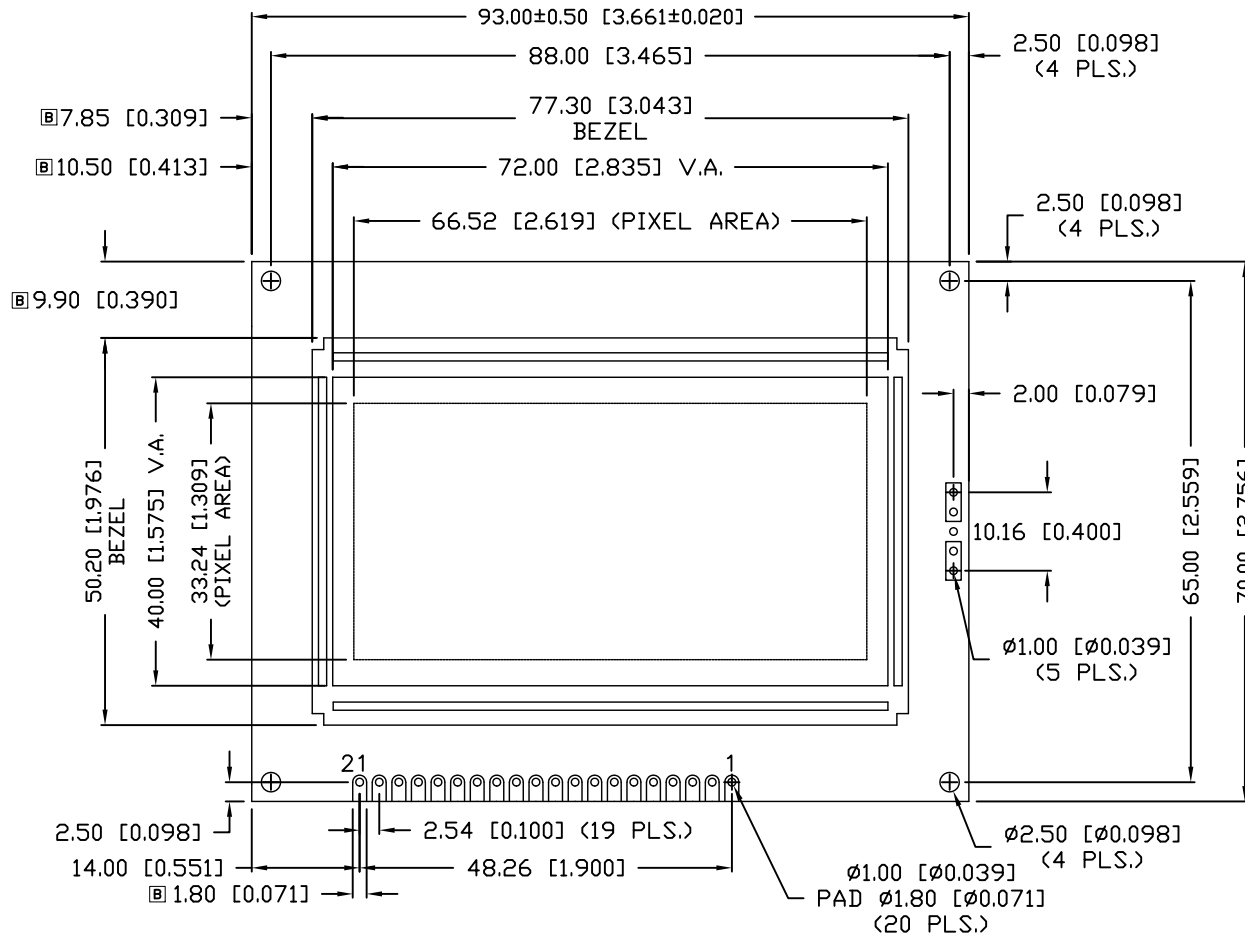
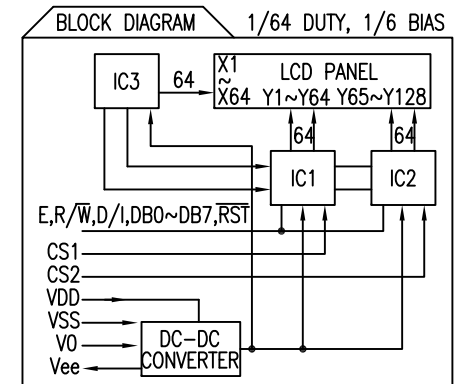
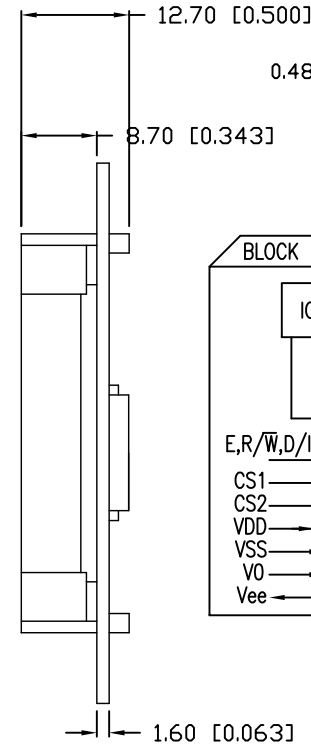
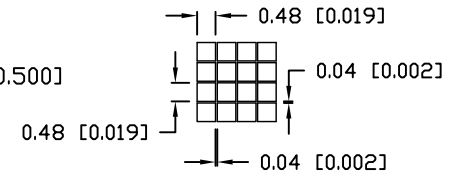


CAUTION: STATIC SENSITIVE DEVICE
FOLLOW PROPER E.S.D. HANDLING PROCEDURES
WHEN WORKING WITH THIS PART.



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 -0.00 MAX.=+0.00 -DECIMAL PRECISION

REV. —	PART NUMBER LCM-S12864GSF
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128 x 64 DOT MATRIX GRAPHIC MODULE,
1/64 DUTY, 1/6 BIAS.

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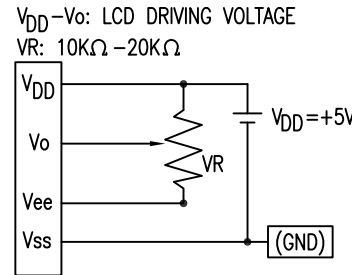
RELIABILITY NOTE
OUR MANY YEARS OF EXPERIENCE DATA ACCUMULATION INDICATE THAT SOLDER HEAT IS A MAJOR CAUSE OF EARLY AND FUTURE FAILURE. PLEASE PAY ATTENTION TO YOUR SOLDERING PROCESS.



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			PAGE: 1 OF 1
			SCALE: N/A

PIN CONFIGURATION			
PIN NO.	SYMBOL	LEVEL	FUNCTION
1	V _{SS}	—	GND (0V)
2	V _{DD}	—	POWER SUPPLY 5V FOR LCD DRIVE
3	V _O	—	
4	D/I	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
15	CS1	H/L	CHIP SELECTION SIGNAL FOR IC1
16	CS2	H/L	CHIP SELECTION SIGNAL FOR IC2
17	RST	—	RESET SIGNAL (ACTIVE "LOW")
18	V _{EE}	—	OUTPUT VOLTAGE FOR LCD DRIVING
19	A	—	ANODE LED BACKLIGHT
20	K	—	CATHODE LED BACKLIGHT



READ/WRITE TIMING FOR MPU INTERFACE				
PARAMETER	SYMBOL	MIN	MAX	UNIT
ADDRESS HOLD TIME	t _{AH}	10	—	ns
ADDRESS SETUP TIME	t _{AS}	140	—	ns
E CYCLE TIME	t _{CYC}	1000	—	ns
E HIGH LEVEL WIDTH	t _{WEH}	450	—	ns
E LOW LEVEL WIDTH	t _{WEL}	450	—	ns
DATA SETUP TIME	t _{DSW}	200	—	ns
DATA HOLD TIME (READ)	t _{DHR}	20	—	ns
DATA DELAY TIME	t _{DDR}	—	320	ns
DATA HOLD TIME (WRITE)	t _{DHW}	10	—	ns
E RISE TIME	t _R	—	25	ns
E FALL TIME	t _F	—	25	ns

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}	—	4.75	5.0	5.25	V
SUPPLY CURRENT FOR LOGIC	I _{DD}	V _{DD} =5V	—	8.0	—	mA
INPUT VOLTAGE	HIGH	V _{IH}	—	0.7*V _{DD}	—	V _{DD}
	LOW	V _{IL}	—	0	—	0.3*V _{DD}
*LED BACKLIGHT	VOLTAGE	V _f	I _f =300mA	—	4.2	4.5
	CURRENT	I _f	—	—	300	—
	POWER CONSUMPTION	PD	—	—	1260	—
	LUMINOUS	L	I _f =300mA	60	90	—
	COLOR	—	—	—	—	—

ABSOLUTE MAXIMUM RATINGS					
ITEM	SYMBOL	TEST CONDITION	STANDARD VALUE		UNIT
			MIN	MAX	
SUPPLY VOLTAGE FOR LOGIC	V _{DD} -V _{SS}	T _a =25°C	—	7.0	V
SUPPLY VOLTAGE FOR LCD DRIVE	V _{DD} -V _O	—	10.8@40°C	12.4@0°C	V
INPUT VOLTAGE	V _I	T _a =25°C	V _{SS}	V _{DD}	V
OPERATING TEMPERATURE	T _{opr}	LCM-S	0	50	°C
STORAGE TEMPERATURE	T _{stg}	LCM-S	-20	70	°C

*ONLY APPLIES TO MODULES WITH BACKLIGHT

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