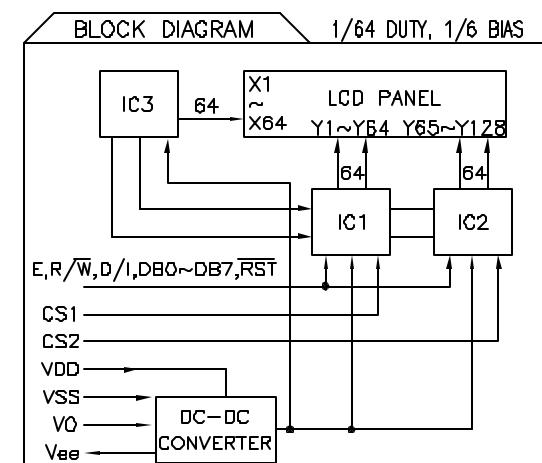
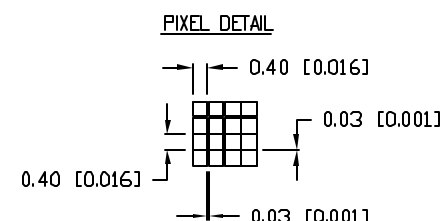
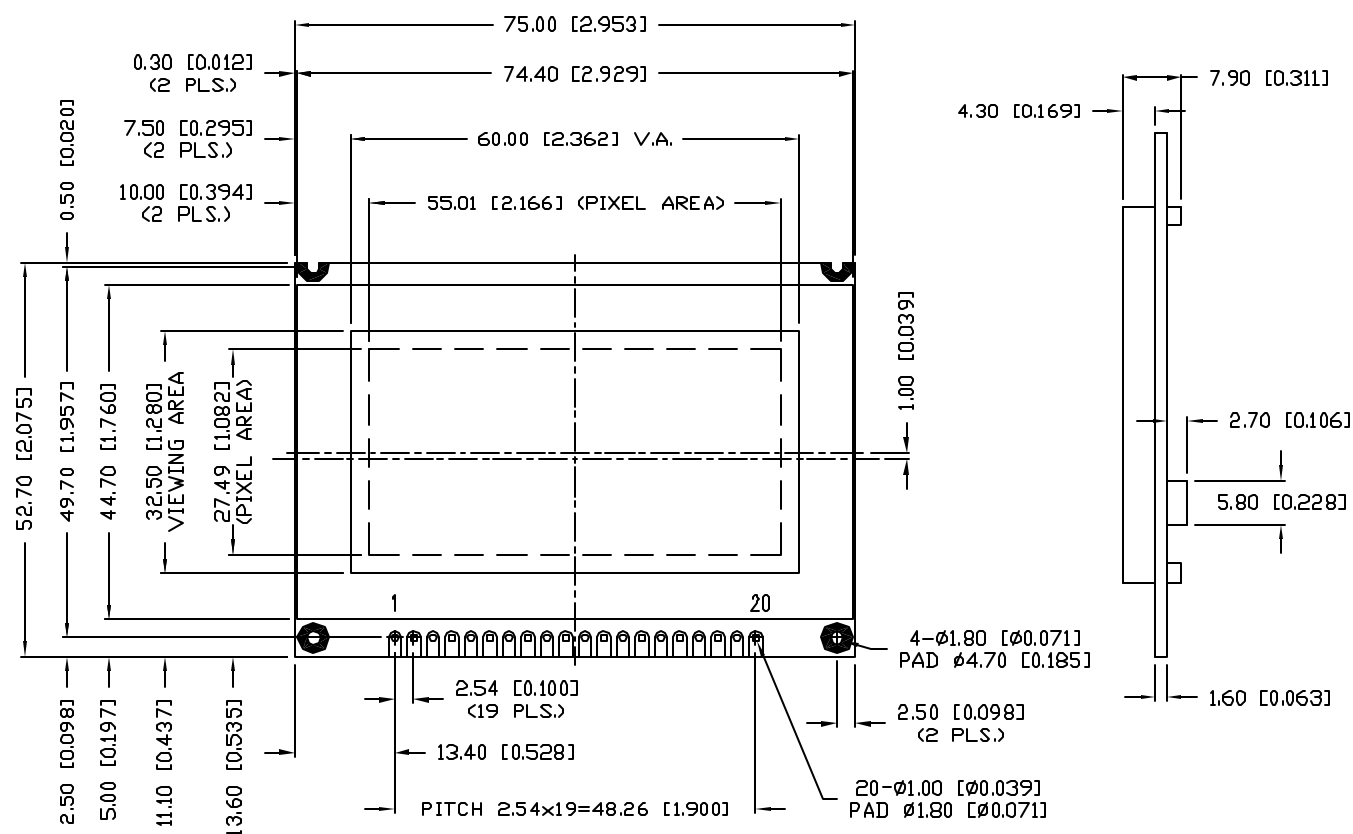


UNCONTROLLED DOCUMENT

PART NUMBER		REV.
LCM-H12864GSF/H-U		A
REV.	E.C.N. NUMBER AND REVISION COMMENTS	DATE
A	E.C.N. #11148.	4.20.07



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



UNCONTROLLED DOCUMENT

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

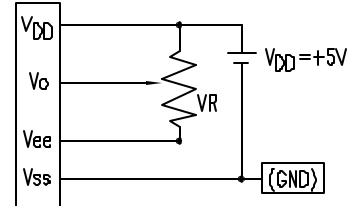
REV.	PART NUMBER	CONFIDENTIAL INFORMATION		290 E. HELEN ROAD	
A	LCM-H12864GSF/H-U	THE INFORMATION CONTAINED IN THIS DOCUMENT IS THE PROPERTY OF LUMEX INC. EXCEPT AS SPECIFICALLY AUTHORIZED IN WRITING BY LUMEX INC., THE HOLDER OF THIS DOCUMENT SHALL KEEP ALL INFORMATION CONTAINED HEREIN CONFIDENTIAL AND SHALL PROTECT SAME IN WHOLE OR IN PART FROM DISCLOSURE AND DISSEMINATION TO ALL THIRD PARTIES.		PALATINE, IL 60067-6976	
128 x 64 DOT MATRIX GRAPHIC MODULE, 1/64 DUTY, STN, TRANSFLECTIVE, BLUE-GREEN EL BACKLIGHT, 1/6 BIAS, WITH NEGATIVE CHARGE PUMP.		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.		PHONE: +1.847.359.2790	
		LUMEX		US WEB: www.lumex.com	
		DRAWN BY: JC		TW WEB: www.lumex.com.tw	
		CHECKED BY:		DATE: 12.9.02	
		APPROVED BY:		PAGE: 1 OF 2	
				SCALE: N/A	

PIN CONFIGURATION

PIN NO.	SYMBOL	LEVEL	FUNCTION
1	V _{DD}	—	POWER SUPPLY
2	V _{SS}	—	
3	VR	—	
4-11	DB0~DB7	H/L	DATA BUS
12	CS1	H/L	CHIP SELECTION SIGNAL FOR IC1
13	CS2	H/L	CHIP SELECTION SIGNAL FOR IC2
14	RST	—	RESET SIGNAL (ACTIVE "LOW")
15	R/W	H/L	DATA READ/WRITE
16	D/I	H/L	REGISTER SELECT SIGNAL
17	E	H,H→L	ENABLE
18	V _{out}	—	OUTPUT VOLTAGE FOR LCD DRIVING
19	EL1	—	EL BACKLIGHT
20	EL2	—	EL BACKLIGHT

V_{DD}-V_o: LCD DRIVING VOLTAGE

VR: 10KΩ-20KΩ



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
	LOW	V _{IL}	—	0	—	V
EL BACKLIGHT	VOLTAGE	V _{EL}	F _{EL} =400Hz	—	100	4.5 V _{rms}
	CURRENT	I _{EL}	F _{EL} =400Hz	—	8.2	— mA _{rms}
	FREQUENCY	F _{EL}	—	—	400	— Hz
	LUMINOUS	L	100V _{rms} , 400Hz	50	70	— cd/m ²
	COLOR	—	BLUE GREEN	—	—	— nm

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
		LCM-H	-20	70	°C
STORAGE TEMPERATURE	T _{stg}	LCM-S	-20	70	°C
		LCM-H	-30	85	°C

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PAGE: 2 OF 2

SCALE: N/A