

UNCONTROLLED DOCUMENT

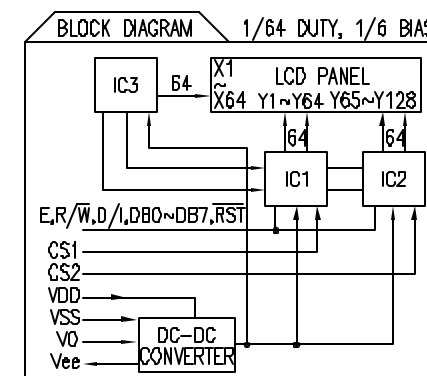
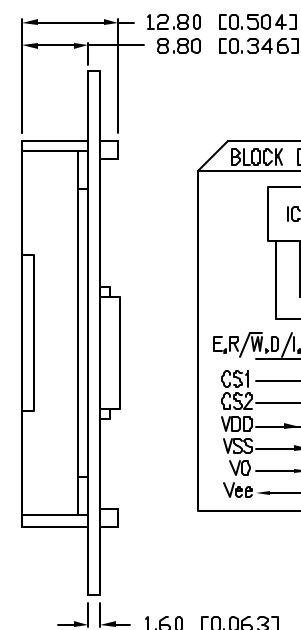
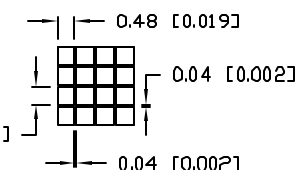
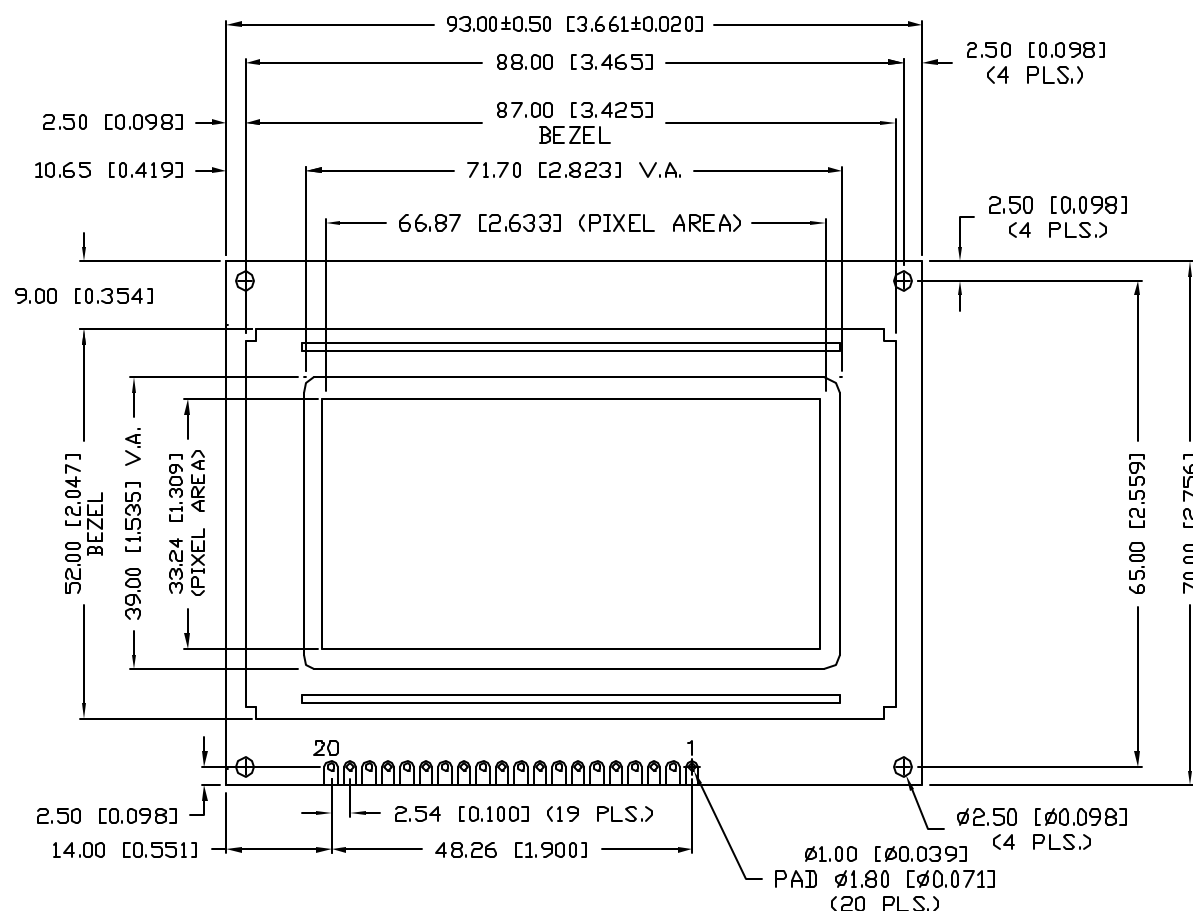
CAUTION: STATIC SENSITIVE DEVICE
FOLLOW PROPER E.S.D. HANDLING PROCEDURES
WHEN WORKING WITH THIS PART.

PART NUMBER
LCM-H12864GSF/R21Y

REV.
A

REV.	E.C.N. NUMBER AND REVISION COMMENTS
A	E.C.N. #11148.

DATE
4.19.07



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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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CONFIDENTIAL INFORMATION

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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

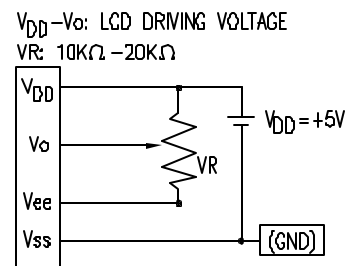
SCALE: N/A

JC

128 x 64 DOT MATRIX GRAPHIC MODULE,
STN GREEN, 12:00 VIEW, WIDE OPER. TEMP.
1/64 DUTY, 1/6 BIAS, WITH NEGATIVE CHARGE PUMP.

REV.	E.C.N. NUMBER AND REVISION COMMENTS	DATE
A	SEE PAGE #1	

PIN CONFIGURATION				
PIN NO.	SYMBOL	LEVEL	FUNCTION	
1	V _{SS}	-	POWER SUPPLY	GND (0V)
2	V _{DD}	-		5V
3	V _b	-		FOR LCD DRIVE
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
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} V
	LOW	V _{IL}	-	0	-	0.3*V _{DD} V
*LED BACKLIGHT	VOLTAGE	V _f	I _f =300mA	-	4.2	4.5 V
	CURRENT	I _f	-	-	300	mA
	POWER CONSUMPTION	PD	-	-	1260	mW
	LUMINOUS	L	I _f =300mA	60	90	cd/m ²
	COLOR	-	-	-	-	nm

*ONLY APPLIES TO MODULES WITH BACKLIGHT

ABSOLUTE MAXIMUM RATINGS					
ITEM	SYMBOL	TEST CONDITION	STANDARD VALUE		UNIT
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@80°C	V
INPUT VOLTAGE	V _I	T _a =25°C	V _{SS}	V _{DD}	V
OPERATING TEMPERATURE	T _{opr}	LCM-H	-20	70	°C
STORAGE TEMPERATURE	T _{stg}	LCM-H	-30	85	°C

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