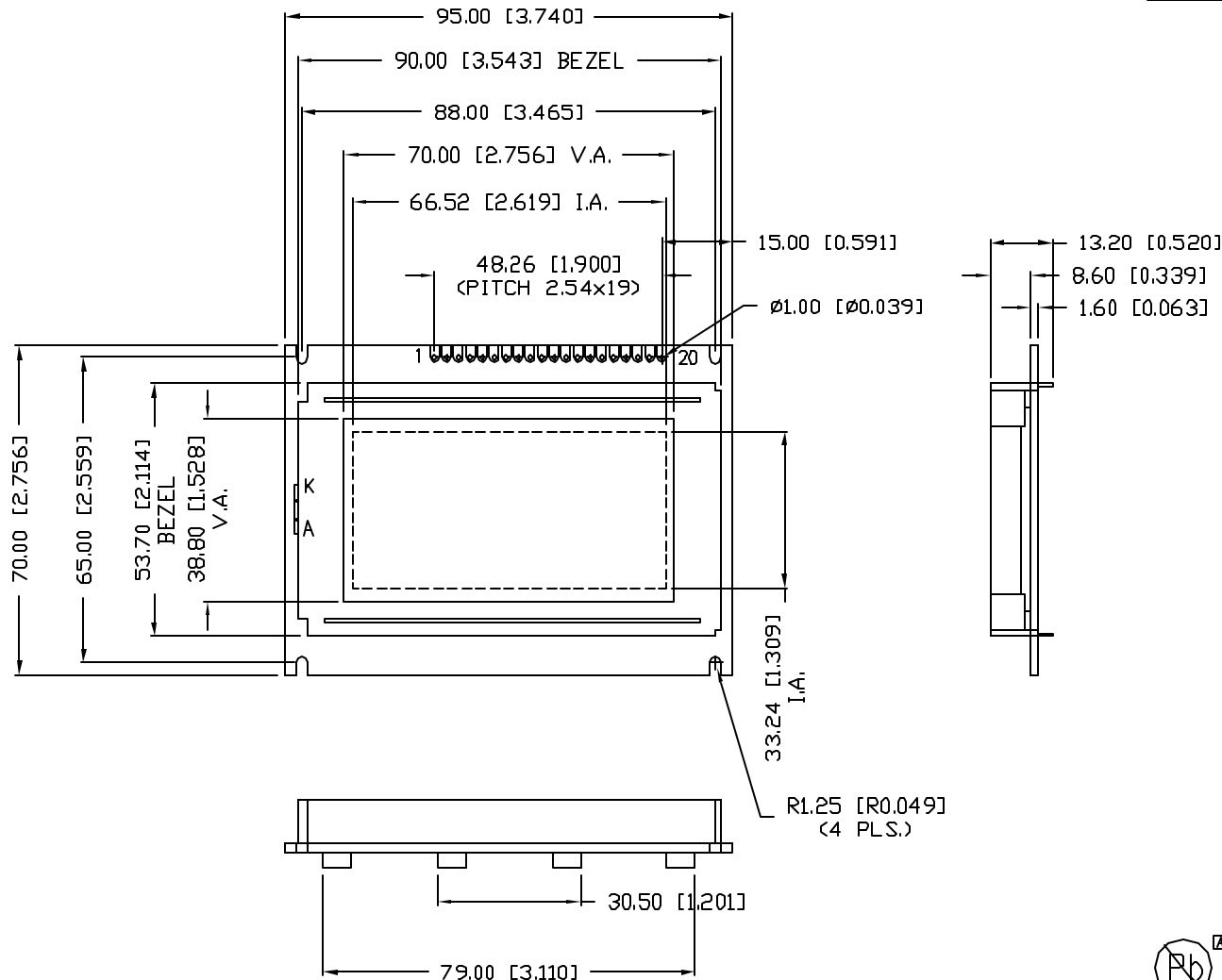


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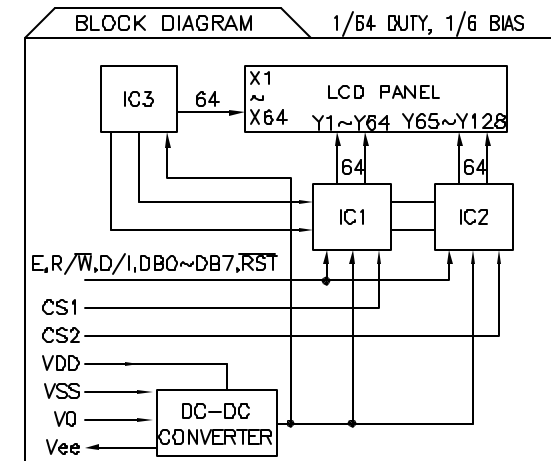
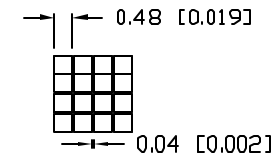
PART NUMBER
LCM-H12864GSF/R-Y

REV.

A

REV. E.C.N. NUMBER AND REVISION COMMENTS
A E.C.N. #11148.DATE
4.19.07

PIXEL DETAIL



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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.=+0.00 DECIMAL PRECISION MAX.=+0.00 DECIMAL PRECISION

REV.

A

PART NUMBER

LCM-H12864GSF/R-Y

128 x 64 GRAPHIC LCD MODULE, STN YELLOW,
TRANSFLECTIVE, Y/G LED BACKLIGHT, DC-DC
BUILT-IN, -20°C TO +70°C OPERATING TEMP.

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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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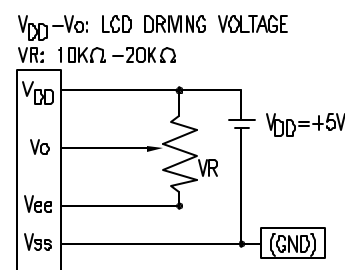
DATE: 7.20.04

PAGE: 1 OF 2

SCALE: N/A

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}	—	
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	—	2.62	4.0	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 =380mA	—	4.2	4.6	V
	CURRENT	I _f	—	—	380	500	mA
	POWER CONSUMPTION	P _D	—	—	1596	—	mW
	LUMINOUS	L	I _f =380mA	60	90	—	cd/m ²
	COLOR	—	—	—	—	—	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}	Ta=25°C	—	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	V
		70°C	11.0	12.4	V
INPUT VOLTAGE	V _I	Ta=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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REV.
APART NUMBER
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BUILT-IN, -20°C TO +70°C OPERATING TEMP.

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