

UNCONTROLLED DOCUMENT

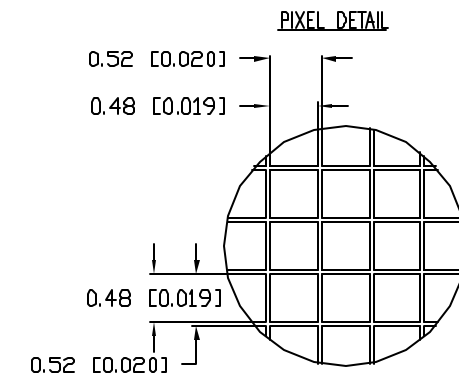
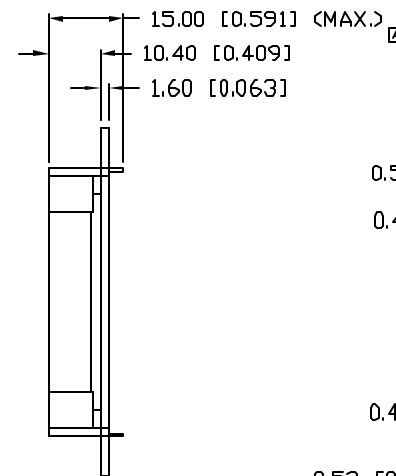
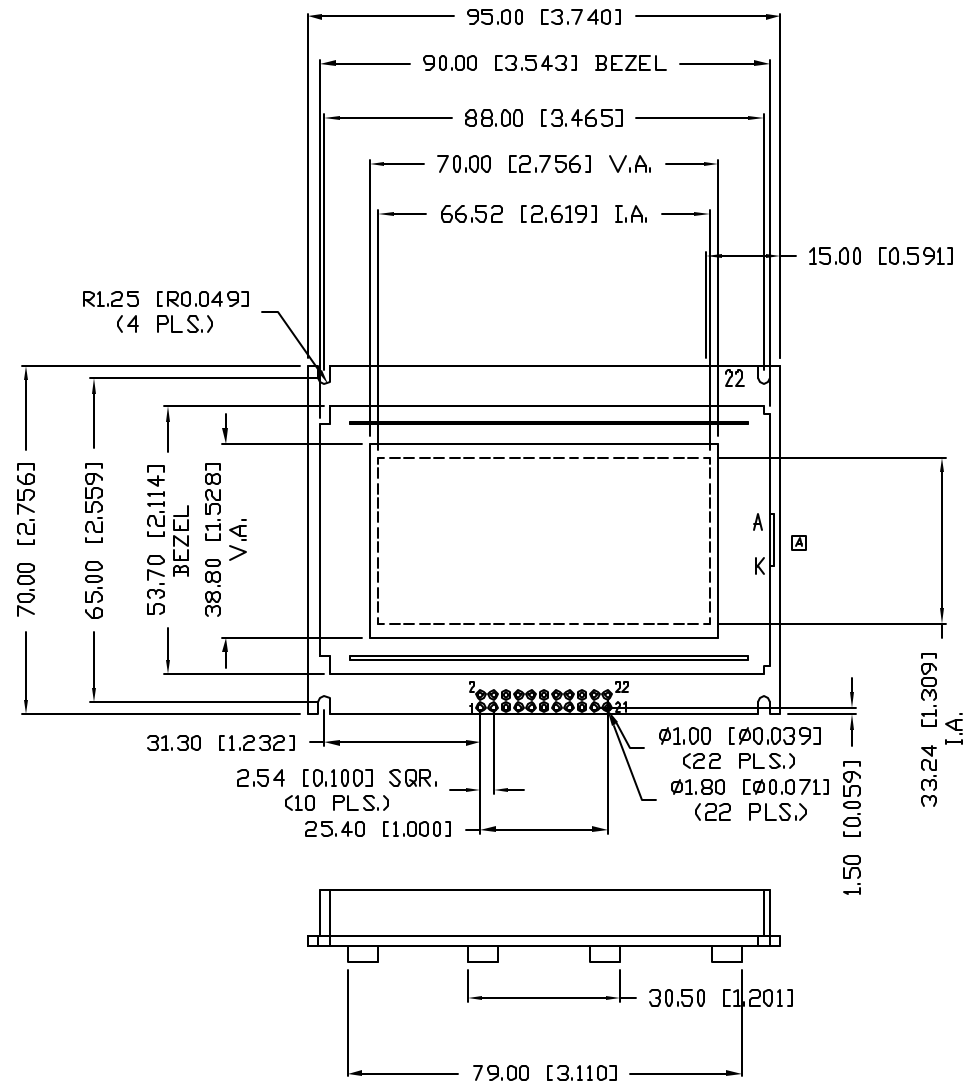
PART NUMBER

LCM-H12864GDN/R-R

REV.

C

REV.	E.C.N. NUMBER AND REVISION COMMENTS	DATE
A	E.C.N. #11241.	5.17.05
B	E.C.N. #11269.	8.29.05
C	E.C.N. #11148.	4.19.07.



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

REV.

C

PART NUMBER

LCM-H12864GDN/R-R

128 x 64 GRAPHIC LCD MODULE, T6963C CONTROLLER IC,
1/64 DUTY, 1/9 BIAS, DC-DC CONVERTER, FSTN,
NEGATIVE IMAGE, RED LED BACKLIGHT, V_{cd}=12.9V

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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DATE: 4.5.05

PAGE: 1 OF 1

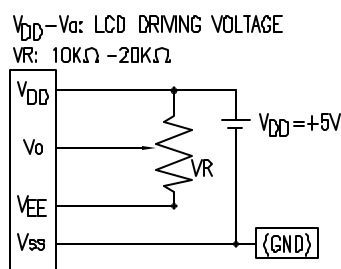
SCALE: N/A



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PIN CONFIGURATION

PIN NO.	SYMBOL	LEVEL	FUNCTION
1	V _{SS}	—	POWER SUPPLY FOR LCD DRIVE
2	V _{DD}	—	
3	V _O	—	
4	C/D	H/L	WR="L", C/D="H": COMMAND WRITE C/D="L": DATA WRITE RD="L", C/D="H": COMMAND READ C/D="L": DATA READ
5	RD	L	DATA READ
6	WR	L	DATA WRITE
7~14	DB0~DB7	H/L	DATA BUS—SOFTWARE SELECTABLE 4 OR 8 BIT MODE.
15	CE	L	CHIP ENABLE
16	RESET	L	CONTROL RESET (MODULE RESET)
17	VEE		OUTPUT VOTAGE FOR LCD DRIVING
18	MD	H/L	H: 32, L: 40 COLUMN SELECT
19	FS	H/L	FONT SELECT "H": 6 x 8 PIXEL/FONT "L": 8 x 8 PIXEL/FONT
20	HLT	L	STOP CLOCK OSCILLATION
21	A	—	ANODE LED BACKLIGHT
22	K	—	CATHODE LED BACKLIGHT



ELECTRICAL CHARACTERISTICS

V_{DD}=4.7V to 5.3V, T_A=25°C

ITEM		SYMBOL	CONDITION	STANDARD VALUE			UNIT	
				MIN.	TYP.	MAX.		
SUPPLY VOLTAGE FOR LOGIC		V _{DD} -V _{SS}	—	4.5	5.0	5.5	V	
SUPPLY VOLTAGE FOR LCD DRIVE		V _{DD} -V _O	V _{DD} =5V	7.6	8.3	9.2	V	
SUPPLY CURRENT FOR LOGIC		I _{DD}	V _{DD} =5V	—	8.2	13.0	mA	
SUPPLY CURRENT FOR LCD		I _{EE}	V _{DD} -V _{EE} =12.9V	—	2.8	5.0	mA	
INPUT VOLTAGE	HIGH	V _{IH}	—	2.2	—	4.7	V	
	LOW	V _{IL}	—	0	—	0.6	V	
OUTPUT VOLTAGE	HIGH	V _{OH}	—	2.4	—	—	V	
	LOW	V _{OL}	—	—	—	0.4	V	
LED BACKLIGHT	VOLTAGE		V _I	I _f =327mA	—	12.0	—	V
	CURRENT		I _f	—	—	327	—	mA
	POWER CONSUMPTION		P _D	—	—	3924	—	mW
	LUMINOUS		L	—	—	600	—	cd/m ²
	COLOR		—	RED	—	—	—	

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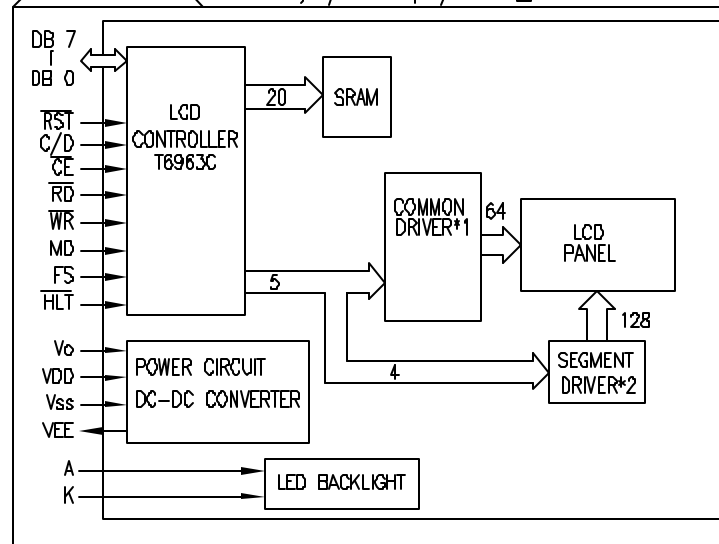
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REV. E.C.N. NUMBER AND REVISION COMMENTS

DATE

SEE PAGE ONE.

BLOCK DIAGRAM 128 x 64, 1/64 DUTY, 1/9 BIAS ㉔



㉔ R8=R9=R10=R11=60ohm 1/2W

ABSOLUTE MAXIMUM RATINGS

ITEM	SYMBOL	TEST CONDITION	STANDARD VALUE		UNIT
			MIN	MAX	
SUPPLY VOLTAGE FOR LOGIC	V _{DD} -V _{SS}	T _a =25°C	4.7	5.3	V
SUPPLY VOLTAGE FOR LCD DRIVE	V _{DD} -V _O	—	0	10	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	80	°C

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