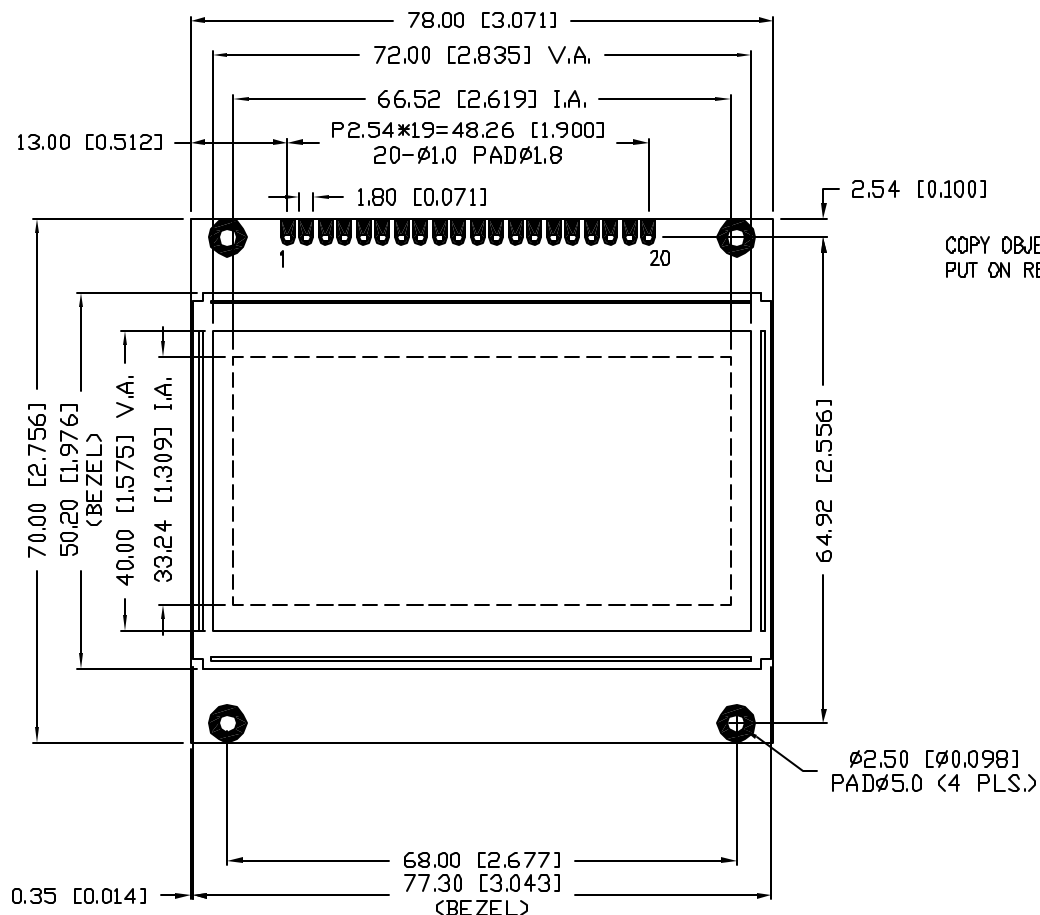
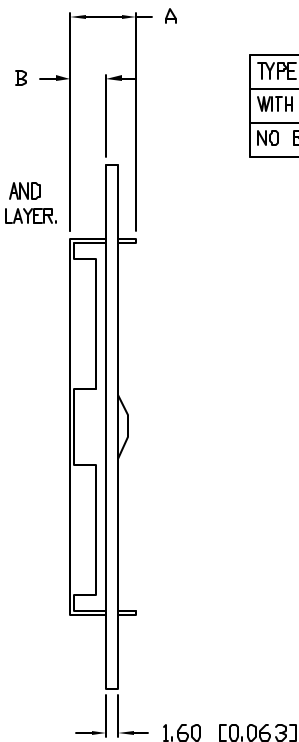


UNCONTROLLED DOCUMENT

PART NUMBER
LCM-X12864GXX/EREV.
A

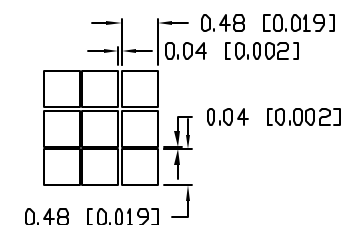
REV.	E.C.N. NUMBER AND REVISION COMMENTS
A	E.C.N. #11337.

DATE
6.22.06

COPY OBJECTS AND
PUT ON REV- LAYER.

TYPE	DIM.	A	B
WITH BACKLIGHT		12.7	8.7
NO BACKLIGHT		8.8	4.8

DETAIL LCD VIEW



*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 -0.00 MAX.= +0.00 -DECIMAL PRECISION

REV.
APART NUMBER
LCM-X12864GXX/E128 x 64 GRAPHIC LCD MODULE, T6963C CONTROLLER IC,
1/64 DUTY, DC-DC CONVERTER.

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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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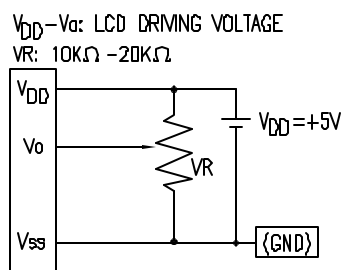
DATE: 12.14.04

PAGE: 1 OF 2

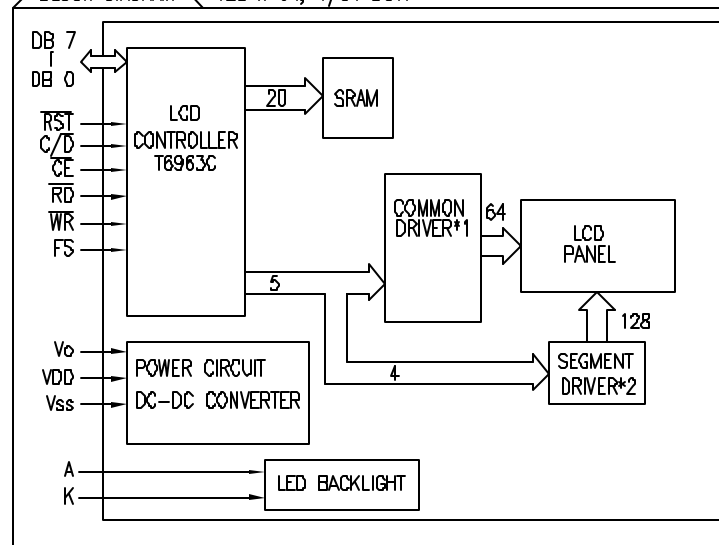
SCALE: N/A

PIN CONFIGURATION

PIN NO.	SYMBOL	LEVEL	FUNCTION
1	FG	—	POWER SUPPLY
2	V _{SS}	—	FRAME GROUND
3	V _{DD}	—	0V
4	V _O	—	5V
5	WR	L	FOR LCD DRIVE
6	RD	L	DATA WRITE
7	CE	L	DATA READ
8	C/D	H/L	CHIP ENABLE
9	RST	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
10~17	DB0~DB7	H/L	CONTROL RESET (MODULE RESET)
18	FS	H/L	DATA BUS—SOFTWARE SELECTABLE 4 OR 8 BIT MODE. "H": 6 x 8 PIXEL/FONT "L": 8 x 8 PIXEL/FONT
19	A	—	FONT SELECT
20	K	—	POSITIVE FOR BACKLIGHT NEGATIVE FOR BACKLIGHT



BLOCK DIAGRAM 128 x 64, 1/64 DUTY



ELECTRICAL CHARACTERISTICS

 $V_{DD}=4.7V$ to $5.3V$, $T_A=25^\circ C$

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}	$V_{DD}=5V$	—	4.5	10	mA
INPUT VOLTAGE	HIGH	V_{IH}	—	2.2	—	4.7
	LOW	V_{IL}	—	0	—	0.6
OUTPUT VOLTAGE	HIGH	V_{OH}	—	2.4	—	—
	LOW	V_{OL}	—	—	0.4	V
*LED BACKLIGHT	VOLTAGE	V_f	$I_f=300mA$	—	4.2	4.5
	CURRENT	I_f	—	—	300	400
	POWER CONSUMPTION	PD	—	—	1260	—
	LUMINOUS	L	$I_f=300mA$	60	90	—
	COLOR	—	—	—	—	nm

ABSOLUTE MAXIMUM RATINGS

ITEM	SYMBOL	TEST CONDITION	STANDARD VALUE		UNIT
			MIN	MAX	
SUPPLY VOLTAGE FOR LOGIC	$V_{DD}-V_{SS}$	$T_a=25^\circ C$	0	7	V
SUPPLY VOLTAGE FOR LCD DRIVE	$V_{DD}-V_O$	—	0	14	V
INPUT VOLTAGE	V_I	$T_a=25^\circ C$	V_{SS}	V_{DD}	V
OPERATING TEMPERATURE	T_{opr}	LCM-S	0	50	$^\circ C$
		LCM-H	-20	70	$^\circ C$
STORAGE TEMPERATURE	T_{stg}	LCM-S	-20	70	$^\circ C$
		LCM-H	-30	85	$^\circ C$

*ONLY APPLIES TO MODULES WITH BACKLIGHT

*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 -0.00 -DECIMAL PRECISION

REV.

A

PART NUMBER

LCM-X12864GXX/E

128 x 64 GRAPHIC LCD MODULE, T6963C CONTROLLER IC,
1/64 DUTY, DC-DC CONVERTER.

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PAGE: 2 OF 2

SCALE: N/A