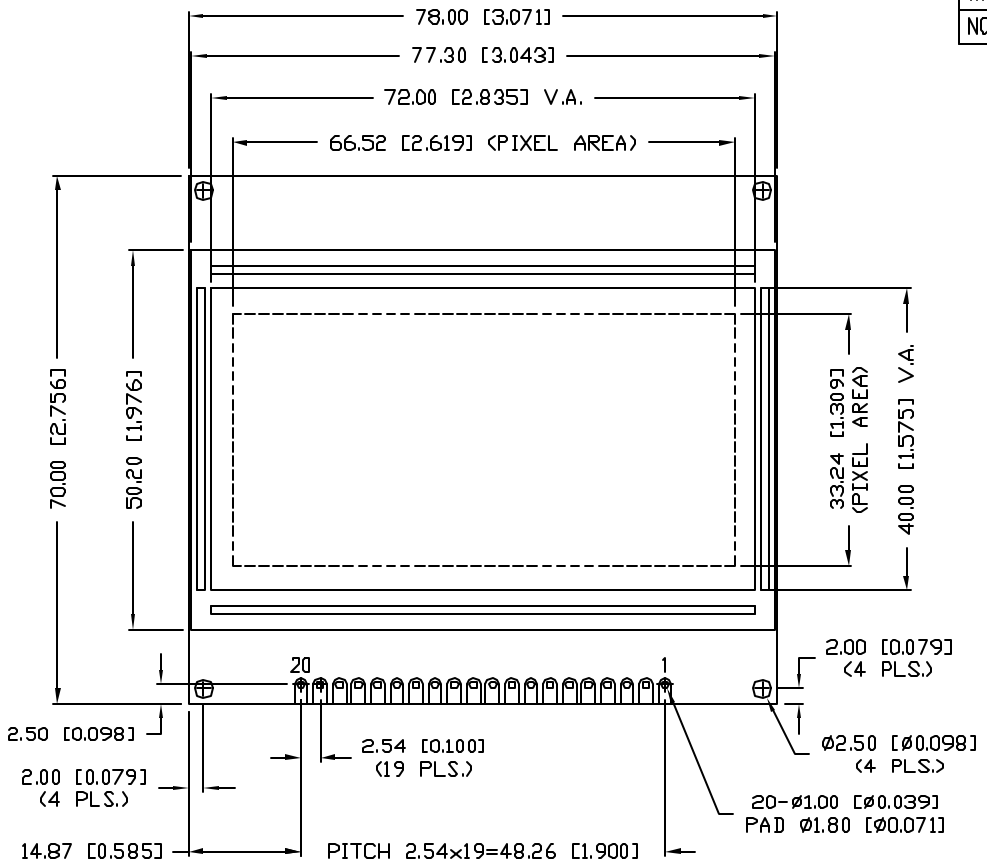
UNCONTROLLED DOCUMENT

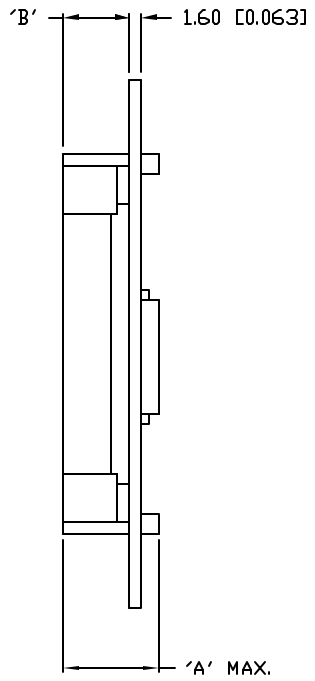
PART NUMBER	REV.
LCM-X12864GXX/C	

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

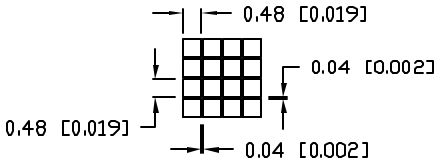
P/N PREFIX/SUFFIX TABLE			
LCM-X		DXX	DESCRIPTION
STANDARD	S	SR	STN, REFLECTIVE
HIGH TEMP.	H	SF	STN, TRANSFLECTIVE(W/ BACKLIGHT)

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

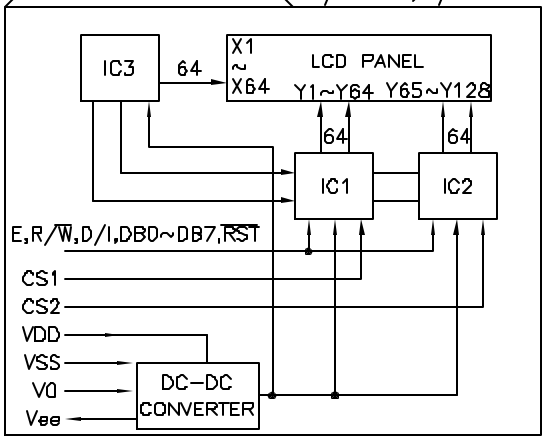




PIXEL DETAIL



BLOCK DIAGRAM 1/64 DUTY, 1/6 BIAS



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

UNCONTROLLED DOCUMENT

*UNLESS OTHERWISE SPECIFIED TOLERANCE IS ±0.25mm (±0.010")

REV.	PART NUMBER	CONFIDENTIAL INFORMATION	LUMEX INCORPORATED	290 E. HELLEN ROAD PALATINE, ILLINOIS 60067 PHONE: 1-847-359-2790 WEB: HTTP://WWW.LUMEX.COM
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128 x 64 DOT MATRIX GRAPHIC MODULE, 1/64 DUTY,
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.

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SA/BC			PAGE: 1 OF 2
			SCALE: N/A

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LCM-X12864GXX/C	

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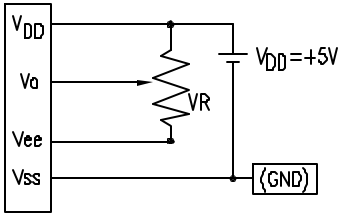
PIN CONFIGURATION

PIN NO.	SYMBOL	LEVEL	FUNCTION	
1	Vss	–	POWER SUPPLY	GND (0V)
2	V_{DD}	–		5V
3	Vo	–		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	$\overline{RST}$	–	RESET SIGNAL (ACTIVE "LOW")	
18	Vee	–	OUTPUT VOLTAGE FOR LCD DRIVING	
19	A	–	ANODE	LED BACKLIGHT
20	K	–	CATHODE	LED BACKLIGHT

V_{DD}-Vo: 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}-Vss	–	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	Vf	If=300mA	–	4.2	4.5	V
	CURRENT	If	–	–	300	–	mA
	POWER CUNSUMPTION	PD	–	–	1260	–	mW
	LUMINOUS	L	If=300mA	60	90	–	cd/m²
	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}-Vss	Ta=25°C	–	7.0	V
SUPPLY VOLTAGE FOR LCD DRIVE	V_{DD}-Vo	–	10.8@40°C	12.4@0°C	V
INPUT VOLTAGE	V_I	Ta=25°C	Vss	V_{DD}	V
OPERATING TEMPERATURE	Topr	LCM-S	0	50	°C
		LCM-H	-20	70	°C
STORAGE TEMPERATURE	Tstg	LCM-S	-20	70	°C
		LCM-H	-30	85	°C

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