



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



## Contact us

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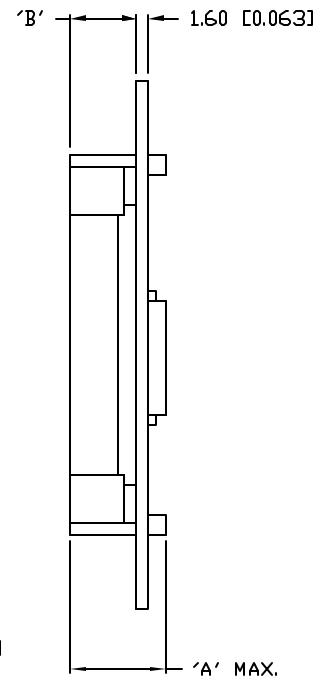
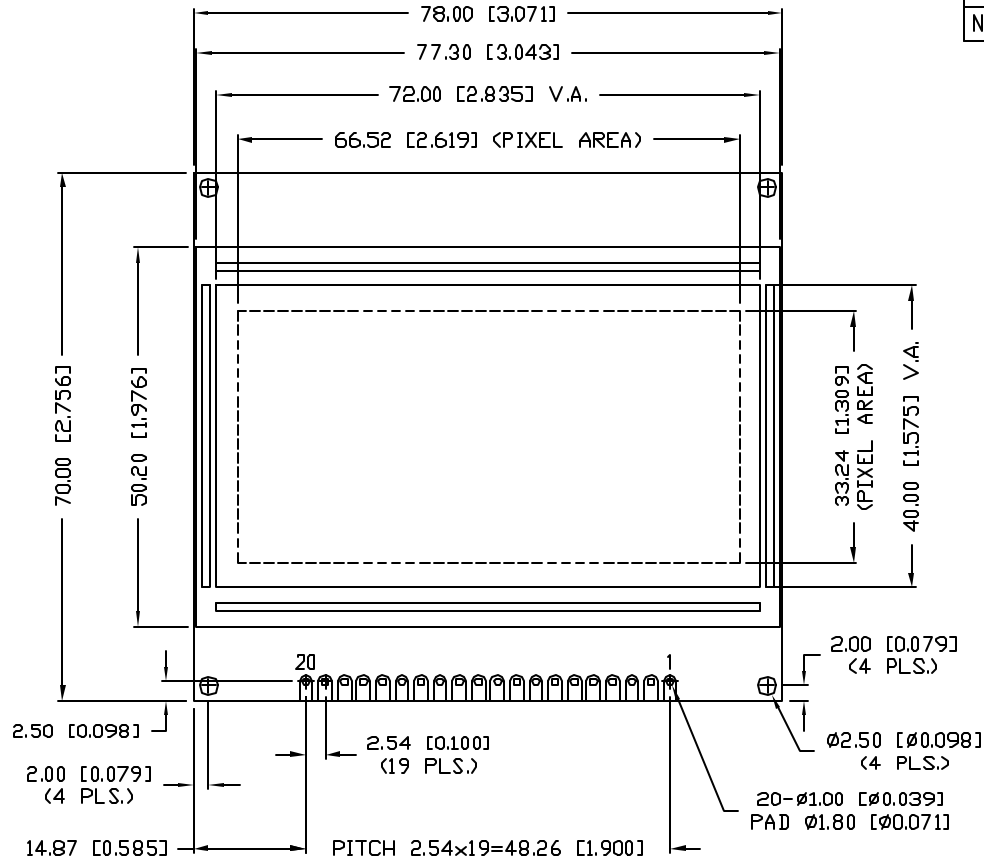


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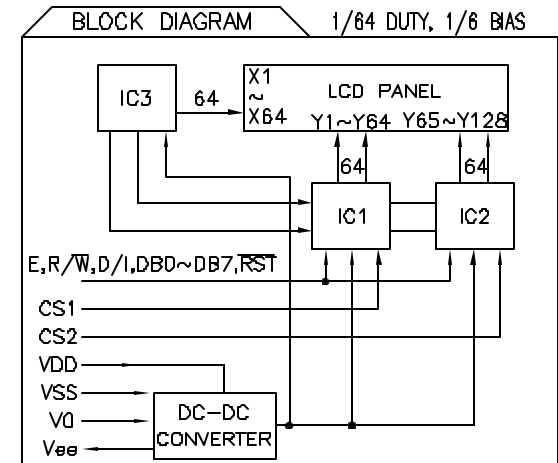
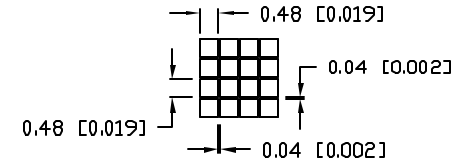
PART NUMBER		REV.
LCM-X12864GXX/C		
REV.	E.C.N. NUMBER AND REVISION COMMENTS	DATE

P/N PREFIX/SUFFIX TABLE		
LGM-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



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

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

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128 x 64 DOT MATRIX GRAPHIC MODULE, 1/64 DUTY,  
1/6 BIAS, WITH NEGATIVE CHARGE PUMP.

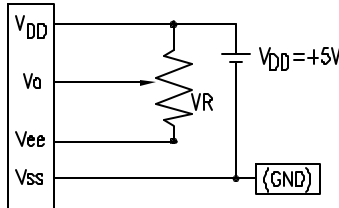
**RELIABILITY NOTE**  
OUR MANY YEARS OF EXPERIENCE DATA ACCUMULATION INDICATE THAT SOLDER HEAT IS A MAJOR CAUSE OF EARLY AND FUTURE FAILURE. PLEASE PAY ATTENTION TO YOUR SOLDERING PROCESS.

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

PIN CONFIGURATION

PIN NO.	SYMBOL	LEVEL	FUNCTION
1	V <sub>SS</sub>	-	POWER SUPPLY GND (0V) 5V FOR LCD DRIVE
2	V <sub>DD</sub>	-	
3	V <sub>0</sub>	-	
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 <sub>EE</sub>	-	OUTPUT VOLTAGE FOR LCD DRIVING
19	A	-	ANODE LED BACKLIGHT
20	K	-	CATHODE LED BACKLIGHT

V<sub>DD</sub>-V<sub>0</sub>: LCD DRIVING VOLTAGE  
VR: 10KΩ-20KΩ



READ/WRITE TIMING FOR MPU INTERFACE

PARAMETER	SYMBOL	MIN	MAX	UNIT
ADDRESS HOLD TIME	t <sub>AH</sub>	10	-	ns
ADDRESS SETUP TIME	t <sub>AS</sub>	140	-	ns
E CYCLE TIME	t <sub>CYC</sub>	1000	-	ns
E HIGH LEVEL WIDTH	t <sub>WEH</sub>	450	-	ns
E LOW LEVEL WIDTH	t <sub>WEL</sub>	450	-	ns
DATA SETUP TIME	t <sub>DSW</sub>	200	-	ns
DATA HOLD TIME (READ)	t <sub>DHR</sub>	20	-	ns
DATA DELAY TIME	t <sub>DDR</sub>	-	320	ns
DATA HOLD TIME (WRITE)	t <sub>DHW</sub>	10	-	ns
E RISE TIME	t <sub>R</sub>	-	25	ns
E FALL TIME	t <sub>F</sub>	-	25	ns

ELECTRICAL CHARACTERISTICS

V<sub>DD</sub>=4.75V to 5.25V, T<sub>A</sub>=25°C

ITEM	SYMBOL	CONDITION	STANDARD VALUE			UNIT	
			MIN.	TYP.	MAX.		
SUPPLY VOLTAGE FOR LOGIC	V <sub>DD</sub> -V <sub>SS</sub>	-	4.75	5.0	5.25	V	
SUPPLY CURRENT FOR LOGIC	I <sub>DD</sub>	V <sub>DD</sub> =5V	-	8.0	-	mA	
INPUT VOLTAGE	HIGH	V <sub>IH</sub>	-	0.7*V <sub>DD</sub>	-	V <sub>DD</sub>	
	LOW	V <sub>IL</sub>	-	0	-	0.3*V <sub>DD</sub>	
*LED BACKLIGHT	VOLTAGE	V <sub>f</sub>	I <sub>f</sub> =300mA	-	4.2	4.5	V
	CURRENT	I <sub>f</sub>	-	-	300	-	mA
	POWER CONSUMPTION	PD	-	-	1260	-	mW
	LUMINOUS	L	I <sub>f</sub> =300mA	60	90	-	cd/m <sup>2</sup>
	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 <sub>DD</sub> -V <sub>SS</sub>	T <sub>a</sub> =25°C	-	7.0	V
SUPPLY VOLTAGE FOR LCD DRIVE	V <sub>DD</sub> -V <sub>0</sub>	-	10.8@40°C	12.4@0°C	V
INPUT VOLTAGE	V <sub>I</sub>	T <sub>a</sub> =25°C	V <sub>SS</sub>	V <sub>DD</sub>	V
OPERATING TEMPERATURE	T <sub>opr</sub>	LCM-S	0	50	°C
		LCM-H	-20	70	°C
STORAGE TEMPERATURE	T <sub>stg</sub>	LCM-S	-20	70	°C
		LCM-H	-30	85	°C

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