



PALM TECHNOLOGY CO., LTD.

The LCD(M) Specialist

*CONTACT ADDRESS : 10F-1, No.392, Yu-Cheng Rd., Tso-Ying Dist.,
KHH, Taiwan, R.O.C.
Tel: 886-7-5587228
Fax: 886-7-5587229
E-mail: sales@palmtech.com.tw*

PART NO. : PMC1601A-SYL

FOR MESSRS. : _____

CONTENTS

<i>NO.</i>	<i>ITEM</i>	<i>PAGE</i>
1.	COVER	1
2.	RECORD OF REVISION	2
3.	GENERAL SPECIFICATION	3
4.	MECHANICAL DATA	3
5.	ABSOLUTE MAXIMUM RATINGS	4
6.	ELECTRICAL CHARACTERISTICS	5
7.	OPTICAL CHARACTERISTICS	5
8.	OUTLINE DIMENSION	6
9.	BLOCK DIAGRAM	7
10.	POWER SUPPLY FOR LCM	7

ACCEPTED BY : _____ PROPOSED BY : _____

RECORD OF REVISION

DATE	PAGE	SUMMARY

3. General specifications

3.1 General specifications

PLEASE REFER TO:

“CUSTOMER ACCEPTANCE STANDARD SPECIFICATIONS (MS-10-12780)”.

3.2 This individual specification is prior to general specifications

4. Mechanical data

- (1) NUMBER OF CHARACTERS -----16 CH * 1 LINE
- (2) MODULE SIZE-----80.0 W * 36.0 H * 15.0 T (max) mm
- (3) EFFECTIVE AREA -----64.5 W * 16.0 H mm
- (4) CHARACTER PATTERN-----5 * 7 DOTS + CURSOR
- (5) CHARACTER SIZE -----3.07 W * 5.73 H mm
- (6) CHARACTER PITCH -----3.77 mm
- (7) DOT SIZE-----0.55 W * 0.75 H mm
- (8) DOT PITCH -----0.63 W * 0.83 H mm
- (9) VIEWING DIRECTION-----6 O’CLOCK
- (10) LCD TYPE-----STN.YELLOW-GREEN.TRANSFLECTIV.
- (11) LED COLOR -----YELLOW-GREEN

5. Absolute maximum ratings

5.1 Electrical absolute maximum ratings

<i>I T E M</i>	<i>SYMBOL</i>	<i>MIN.</i>	<i>MAX.</i>	<i>UNIT</i>	<i>COMMENT</i>
POWER SUPPLY FOR LOGIC	V _{DD} -V _{SS}	0	6.0	V	-----
INPUT VOLTAGE	V _I	V _{SS}	V _{DD}	V	-----
STATIC ELECTRICITY	-----	-----	100	V	NOTE (1)

NOTE (1): ELECTRO-STATIC DISCHARGE RESISTANCE IS TESTED BY CHARGING A 200PF CAPACITOR AND DISCHARGING IT BY CONTACT WITH A INTERFACE CONNECTOR PIN.

5.2 Environmental absolute maximum ratings

<i>I T E M</i>	<i>OPERATING</i>		<i>STORAGE</i>		<i>COMMENT</i>
	<i>MIN.</i>	<i>MAX.</i>	<i>MIN.</i>	<i>MAX.</i>	
AMBIENT TEMPERATURE	0°C	50°C	-20°C	70°C	-----
HUMIDITY	NOTE (2)		NOTE (2)		NO CONDENSATION
VIBRATION NOTE (3)	-----	0.5G	-----	2G	10~300Hz XYZ DIRECTIONS 1 Hr EACH
SHOCK NOTE (3)	-----	3G	-----	50G	10 msec XYZ DIRECTIONS 1 TIME EACH
CORROSIVE GAS	NOT ACCEPTABLE		NOT ACCEPTABLE		-----

NOTE (2) : Ta ≤ 50°C: 90% RH MAX.

Ta > 50°C: ABSOLUTE HUMIDITY MUST BE LOWER THAN THE HUMIDITY OF 90% RH AT 50°C. (80% RH AT 60°C)

NOTE (3): 1G = 9.8 m/s²

6. Electrical characteristicsTa = 25°C V_{DD} = 5.0 ± 0.25 V

<i>I T E M</i>	<i>SYMBOL</i>	<i>CONDITION</i>	<i>MIN.</i>	<i>TYP.</i>	<i>MAX.</i>	<i>UNIT</i>	
INPUT VOLTAGE	V _{IH}	-----	2.2	-----	V _{DD}	V	
	V _{IL}	-----	V _{SS}	-----	0.6	V	
OUTPUT VOLTAGE	V _{OH}	I _{OH} = -0.2 mA	2.4	-----	-----	V	
	V _{OL}	I _{OL} = 1.2 mA	-----	-----	0.4	V	
POWER SUPPLY CURRENT	I _{DD}	V _{DD} = 5.0V	-----	1.0	1.5	mA	
RECOMMENDED LCD DRIVING VOLTAGE	V _{DD-V_O}	DUTY= 1/16. Φ=10° θ=0°	Ta = 0°C	-----	4.9	-----	V
			Ta = 25°C	-----	4.5	-----	V
			Ta = 50°C	-----	4.1	-----	V
POWER SUPPLY CURRENT FOR LED	I _{LED}	V _{DD} = 5.0V	-----	120	150	mA	

NOTE (1): RECOMMENDED LCD DRIVING VOLTAGE MAY FLUCTUATE ABOUT ± 0.5V BY EACH MODULE.

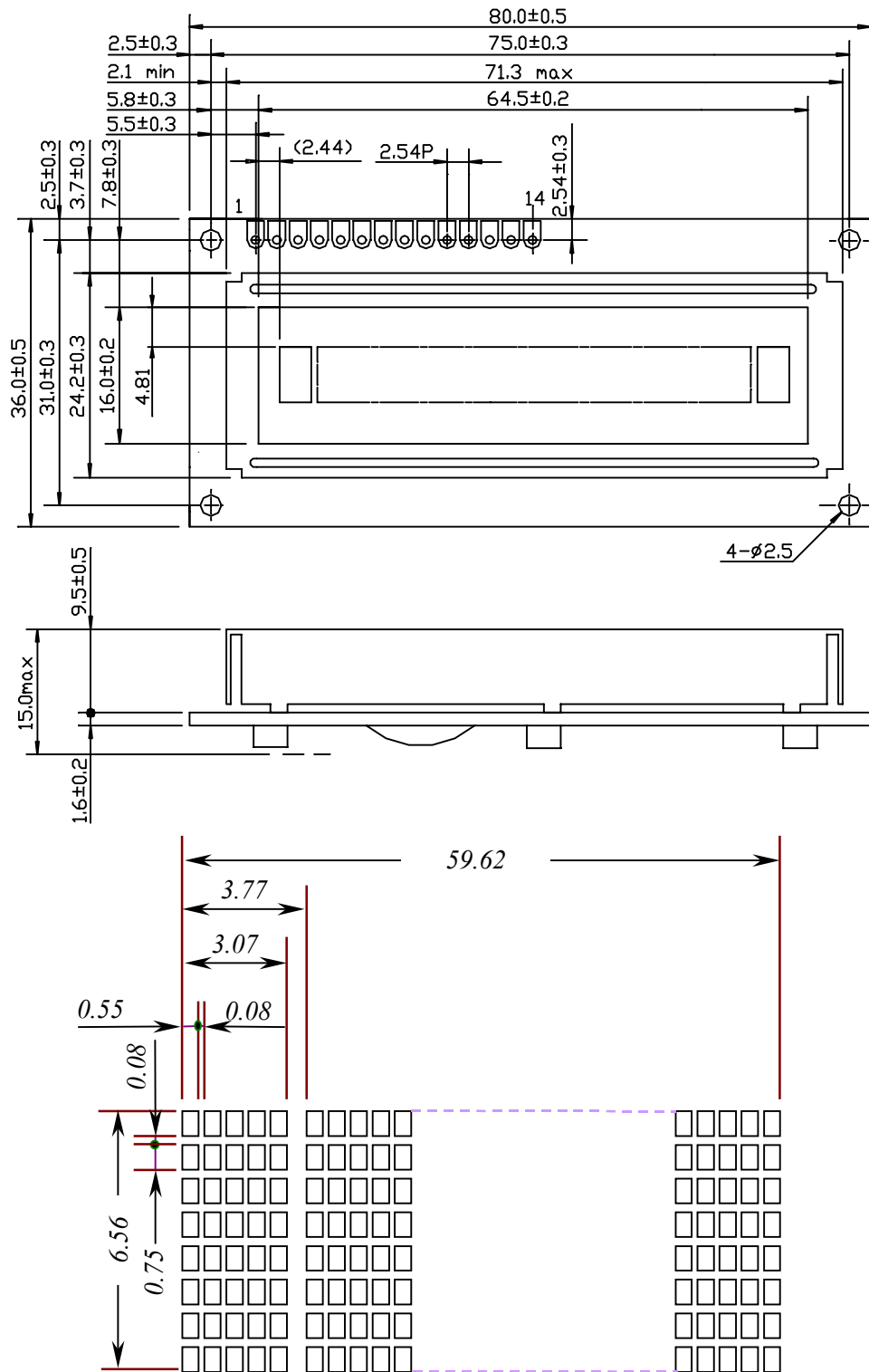
7. Optical characteristicsTa = 25°C V_{DD} = 5.0V

<i>I T E M</i>	<i>SYMBOL</i>	<i>CONDITION</i>	<i>MIN.</i>	<i>TYP.</i>	<i>MAX.</i>	<i>UNIT</i>	<i>NOTE</i>
VIEWING ANGLE	Φ2-Φ1	K = 2.0	30	40	-----	deg.	1
CONTRAST RATIO	K	Φ = 10° θ = 0°	3	4	-----	-----	1
RESPONSE TIME	t _r (rise)	Φ = 10° θ = 0°	-----	200	350	ms	1
	t _f (fall)	Φ = 10° θ = 0°	-----	300	400	ms	1
BRIGHTNESS FOR LED BACKLIGHT	B	Φ = 0° θ = 0°	5.0	-----	-----	cd/m ²	1,2

NOTE (1): SEE CUSTOMER ACCEPTANCE STANDARD SPECIFICATION FOR DEFINITION OF OPTICAL CHARACTERISTICS.

NOTE (2): UNDER NORMAL TEMPERATURE AND HUMIDITY IN A DARK ROOM.

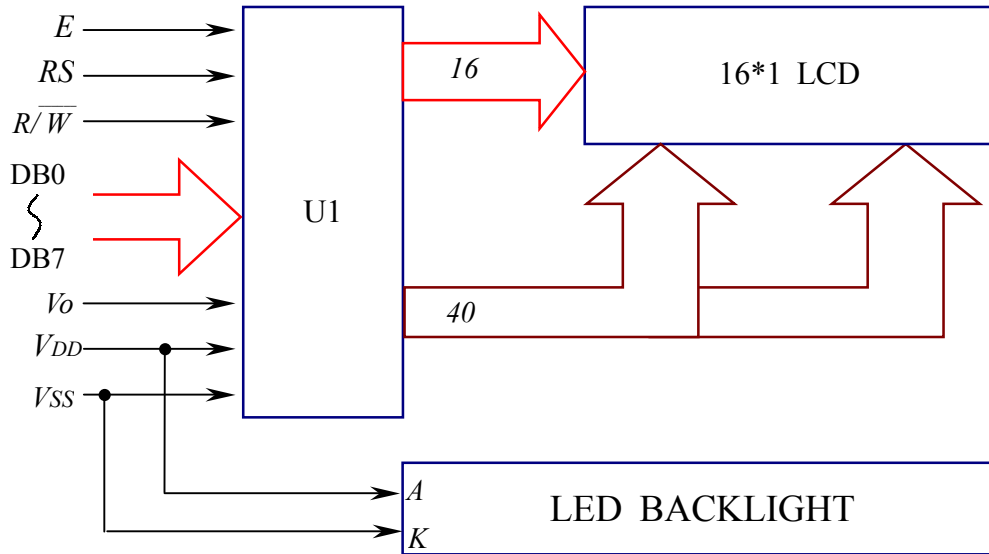
8. Outline dimension



Interface pin connection

PIN NO.	1	2	3	4	5	6	7
SYMBOL	V _{SS}	V _{DD}	V _O	RS	R/ \bar{W}	E	DB0
PIN NO.	8	9	10	11	12	13	14
SYMBOL	DB1	DB2	DB3	DB4	DB5	DB6	DB7

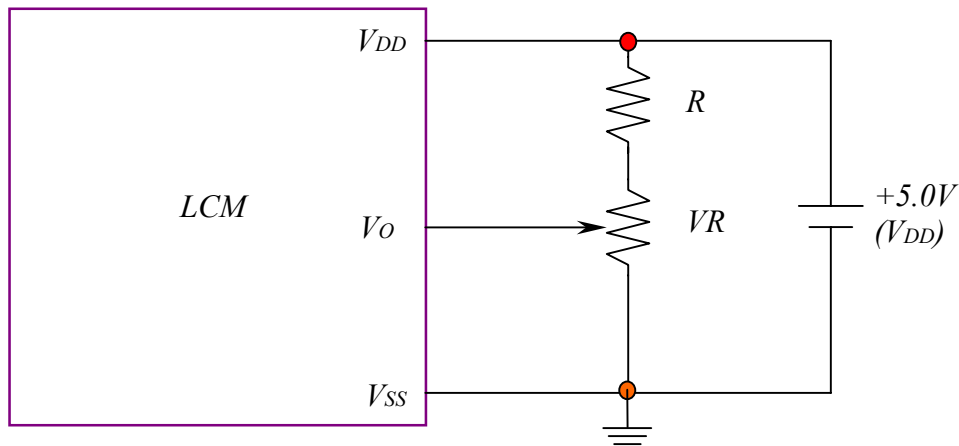
9. Block diagram



Display data address charts

Character	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
LINE 1	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F

10. Power supply for LCM



RECOMMENDED RESISTOR R: $V_{DD}-V_o \geq 1.5V$
 $V_{DD}-V_o$: LCD DRIVING VOLTAGE
 VR: $10K\Omega \sim 20K\Omega$