

1、FEATURES

- Display Type: STN
- Display Format: 16 Characters x 1 Line
- Input Data: 4-Bits or 8-Bits interface available
- Display Font: 5 x 8 Dots
- Display Mode: Yellow-Green
- Driving Mode: 1/16 Duty, 1/5 Bias
- Operating Voltage: 5.0V
- Viewing Direction: 6 O'clock

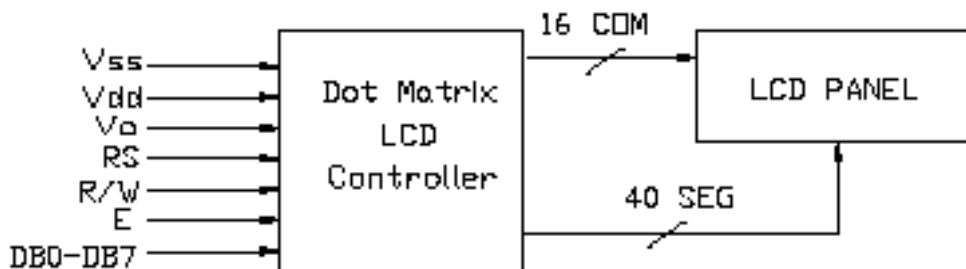
2、ABSOLUTE MAXIMUM RATINGS

Item	Symbol	Min.	Max.	Unit
Power Supply for Logic	Vdd	-0.3	+7.0	V
Power Supply for LCD Drive	Vlcd	Vdd-15.0	Vdd+0.3	V
Input Voltage	Vi	-0.3	Vdd+0.3	V
Operating Temperature	Topr	0	+50	°C
Storage Temperature	TSgt	-20	+60	°C

3、MECHANICAL PARAMETERS

Item	Description	Unit
LCM Outline Dimension	80.0 x 36.0 x9.0 (MAX)	mm
Viewing Area	64.5 x 14.8	mm
Weight	About 30.0	g

4、SYSTEM BLOCK DIAGRAM



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5、 DC CHARACTERISTICS (Ta=25°C; Vdd=5.0V±5%, Vss=0V)

Item	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Operating Voltage	Vdd	--	--	5.0	--	V
LCD Voltage	Vlcd	Vdd-Vo	--	4.5	--	V
Operating Current	Idd	Vdd=5.0V	--	1.9	--	mA
Input "High" Voltage (1) (Except OSC1)	Vih1	--	0.9Vdd	--	Vdd	V
Input "Low" Voltage (1) (Except OSC1)	Vil1	--	-0.3	--	0.6	V
Input "High" Voltage (2) (OSC1)	Vih2	--	Vdd-1.0	--	Vdd	V
Input "Low" Voltage (2) (OSC1)	Vil2	--	-0.2	--	1.0	V
Output "High" Voltage (1) (D0-D7)	Voh1	Ioh=-0.205mA	3.9	--	--	V
Output "Low" Voltage (1) (D0-D7)	Vol1	Iol=1.2mA	--	--	0.4	V

6、PIN ASSIGNMENT

NO.	Symbol	Level	Function
1	V _{ss}	--	GROUND
2	V _{dd}	--	POWER SUPPLY FOR LOGIC
3	V _o	--	POWER SUPPLY FOR LCD
4	RS	H/L	Register Select H: Data register L: Instruction register
5	R/W	H/L	H--Read L—Write
6	E	H,H-L	Start enable signal to read or write the data
7	DB0	H/L	Data bus used in 8 bit transfer
8	DB1	H/L	
9	DB2	H/L	
10	DB3	H/L	
11	DB4	H/L	Data bus for both 4 and 8 bit transfer
12	DB5	H/L	
13	DB6	H/L	
14	DB7	H/L	
15	NC	--	
16	NC	--	

7、AC CHARACTERISTICS (V_{dd}=5.0V ± 5%, V_{ss}=0V, Ta=25°C)

(Write mode)

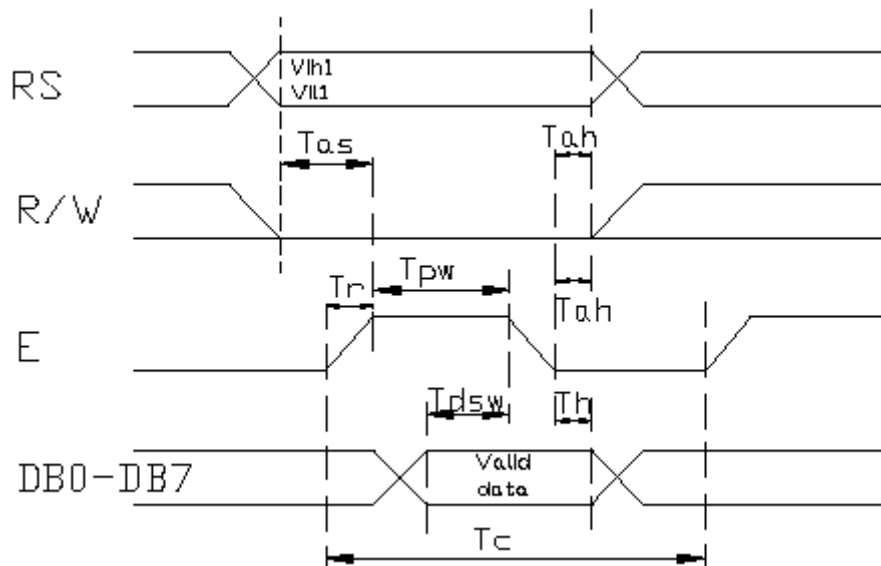
Characteristic	Symbol	Min.	Typ.	Max.	Unit
E Cycle Time	T _c	1200	--	--	ns
E Rise/Fall Time	T _r ,T _f	--	--	25	ns
E Pulse Width (High, Low)	T _{pw}	140	--	--	ns
R/W and RS Set-up Time	T _{as}	0	--	--	ns
R/W and RS Hold Time	T _{ah}	10	--	--	ns
Data Set-up Time	T _{dsw}	40	--	--	ns
Data Hold Time	T _h	10	--	--	ns

8、AC CHARACTERISTICS (V_{dd}=5.0V ± 5%, V_{ss}=0V, Ta=25°C)

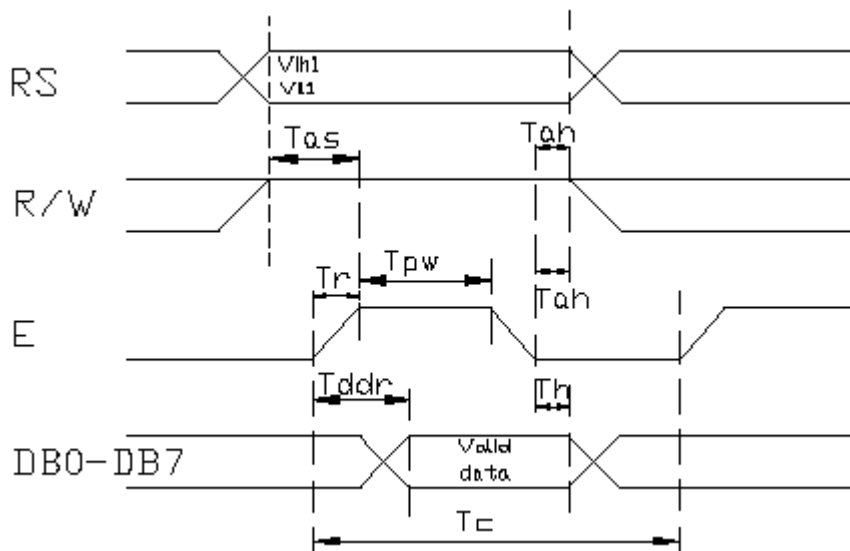
(Read mode)

Characteristic	Symbol	Min.	Typ.	Max.	Unit
E Cycle Time	T _c	1200	--	--	ns
E Rise/Fall Time	T _r ,T _f	--	--	25	ns
E Pulse Width (High, Low)	T _{pw}	140	--	--	ns
R/W and RS Set-up Time	T _{as}	0	--	--	ns
R/W and RS Hold Time	T _{ah}	10	--	--	ns
Data Set-up Time	T _{ddr}	--	--	100	ns
Data Hold Time	T _h	10	--	--	ns

9、WRITE MODE TIMING DIAGRAM



10、READ MODE TIMING DIAGRAM



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11、 CONTROL AND DISPLAY COMMAND

Command	RS	R/W	DB7	DB6	DB5	DB4	DB3	DB2	DB1	DB0	Remark
Display Clear	L	L	L	L	L	L	L	L	L	H	Write "20H" to DDRAM.and set DDRAM address to "00H" from AC.
Return Home	L	L	L	L	L	L	L	L	H	X	Cursor move to first digit
Entry Mode Set	L	L	L	L	L	L	L	H	I/D	SH	I/D: Set cursor move direction H-Increase L-Decrease SH: Specifies shift of display H-Display is shifted L-Display is not shifted
Display On/Off Control	L	L	L	L	L	L	H	D	C	B	D: Display (H-on, L-off) C: Cursor (H-on, L-off) B: Blinking (H-on, L-off)
Shift	L	L	L	L	L	H	S/C	R/L	X	X	SC:(H-Display shift, L-Cursor move) R/L:(H-Right shift, L-Left shift)
Set Function	L	L	L	L	H	DL	N	F	X	X	DL:(H-8 bits interface, L-4 bits interface) N:(H-2 line display, L-1 line display) F:(H-5 x 10 dots, L-5 x 7 dots)
Set CGRAM Address	L	L	L	H	CG RAM address (Corresponds to address)					CGRAM data is sent and received after this setting	
Set DDRAM Address	L	L	H	DD RAM address					DDRAM data is sent and received after this setting		
Read Busy Flag & Address	L	H	BF	Address Counter used for Both DD & CGRAM address					BF:(H-Busy, L-Ready) --Reads BF indication Internal operating is being performed --Reads address counter contents		
Write Data to RAM	H	L	Write Data					Write data into DDRAM or CGRAM			
Read Data from RAM	H	H	Read Data					Read data from DDRAM or CGRAM			

"X": Don't Care

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12、FONT TABLE

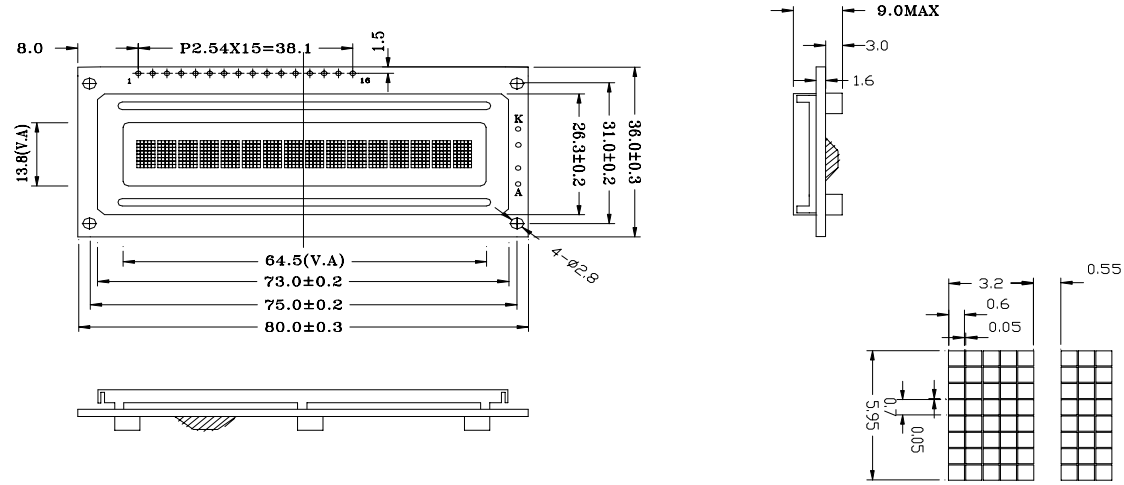
NO.7066-08

b7-b4 b3-b0	0000	0001	0010	0011	0100	0101	0110	0111	1000	1001	1010	1011	1100	1101	1110	1111
0000	CG RAM (1)	±		0	1	2	3	4	5	6	7	8	9	A	B	C
0001	(2)	≡	!	1	2	3	4	5	6	7	8	9	0	+	Y	0
0010	(3)	7	"	2	B	R	b	r	e	e	6	°	o	8	8	2
0011	(4)	△	#	3	0	9	c	z	△	△	0	°	7	W	e	0
0100	(5)	7	*	4	D	T	d	t	△	△	c	°	4	7	z	0
0101	(6)	7	%	5	E	U	e	u	△	△	e	°	7	△	n	7
0110	(7)	7	&	6	F	U	f	u	△	△	°	W	↓	0	0	7
0111	(8)	7	'	7	G	W	w	w	△	△	R	×	→	A	L	7
1000	(1)	7	(8	H	X	h	x	△	△	°	÷	←	E	K	7
1001	(2)	7)	9	I	Y	i	y	△	△	0	°	△	W	A	7
1010	(3)	△	*	*	J	Z	z	z	△	△	0	°	△	W	U	7
1011	(4)	J	+	;	K	L	k	l	△	△	0	°	L	7	V	7
1100	(5)	≡	,	<	L	N	l	l	△	△	0	°	△	7	z	0
1101	(6)	△	-	=	M	I	m	i	△	△	0	°	7	°	W	7
1110	(7)	△	.	>	N	^	n	^	△	△	0	°	7	0	0	7
1111	(8)	△	/	?	0	_	o	△	△	△	°	°	7	0	0	7

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13、ASSEMBLY DIAGRAM



PIN NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
NAME	Vss	Vdd	Vo	RS	R/W	E	DB0	DB1	DB2	DB3	DB4	DB5	DB6	DB7	A(NC)	K(NC)

REMARK:
 1.DISPLAY TYPE:STN
 2.DISPLAY MODE:YELLOW-GREEN
 3.OPERATION TEMP:0°C~50°C
 4.STORAGE TEMP:-20°C~60°C
 5.液晶口朝电阻

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13、ASSEMBLY DIAGRAM

Top View Dimensions:
 Total width: 80.0±0.3
 Pin pitch: P2.54X15=38.1
 Pin diameter: 4-φ2.8
 Display area width: 64.5 (V.A)
 Display area height: 31.0±0.2
 Module height: 36.0±0.3
 Pin 1 offset: 13.8 (V.A)
 Pin 16 offset: 1.5

Side View Dimensions:
 Total height: 9.0 MAX
 Pin height: 3.0
 Pin thickness: 1.6

Detail View Dimensions:
 Grid width: 3.2
 Grid height: 0.55
 Grid pitch: 0.6
 Grid offset: 0.05
 Grid height: 5.95
 Grid offset: 0.7

PIN NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
NAME	V _{SS}	V _{DD}	V _O	RS	R/W	E	DB0	DB1	DB2	DB3	DB4	DB5	DB6	DB7	A(NC)	K(NC)

REMARK:
 1.DISPLAY TYPE:STN
 2.DISPLAY MODE:YELLOW-GREEN
 3.OPERATION TEMP:0°C~50°C
 4.STORAGE TEMP:-20°C~60°C
 5.液晶口朝电阻

REV.	DATE	FROM	TO	DRWN	CHKD	APPD	STATUS	APPD	DATE	VIEWING DIRECTION	6	O'CLOCK	PROJECTION	3RD	UNIT	MM	SCALE
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