Electra House, 32 Southtown Road
Great Yarmouth, Norfolk
NR31 0DU, England

Telephone +44 (0)1493 602602
Email:sales@midasdisplays.com
Email:tech@midasdisplays.com
www.midasdisplays.com

MD20805B6W-FPTLRGB	2 x 8	5mm Character Height	LCD Module
Specification			
Version: 1		Date: 07/09/2021	
Revision			
1	05/09/2021	First Issue	

Display Features			
Character Count	2 x 8		
Appearance	Black on RGB		
Logic Voltage	5V		
Interface	Parallel		
Font Set	English / Japanese		
Display Mode	Transflective		
Character Height	4.75mm		
LC Type	FSTN		
Module Size	40.00 x 35.40 x 13.00 mm		
Operating Temperature	-20°C ~ +70°C		
Construction	COB	Box Quantity	Weight / Display
LED Backlight	RGB	---	---

RoHS compliant

* - For full design functionality, please use this specification in conjunction with the ST7066U specification. (Provided Separately)

Display Accessories	
Part Number	**Description**
MCCMDB-16SIL	LCD Interconnect board, can be driven from either a PC or a single Board computer with a USB output.
MCCBL1A16SLIP -16DILS-150	16 Way, Single in-line to Dual In-line connector Cable.

Optional Variants		
Fonts	**Appearances**	**Voltage**
English/Euro English/Cyrillic	Black on Yellow/ Green White on Blue Black on White	3V 3.3V

FEATURES

AVAILABLE OPTIONS	CHARACTERISTICS
DISPLAY FORMAT	**8 Characters by 2 Lines**
POLARIZER OPTIONS	**Positive Transflective**
BACKLIGHT TYPE OPTIONS	**Edge Type LED Backlight (Standard version)**
BACKLIGHT COLOR OPTIONS	**RedGreenBlue three color**
LCD PANEL OPTIONS	**FSTN**
VIEWING ANGLE OPTIONS	**6:00 (Bottom)**
TEMPERATURE RANGE OPTIONS	**-20°C ~ 70°C, Single Supply Voltage**
SUGGESTED DRIVING VOLTAGE	**Vlcm = 5.0V Vled = 5.0V**
SUGGESTED LED DRIVING MODE	**PIN15: LED+, PIN16:K(B),PIN17:K(G),PIN18:K(R)**
CONTROLLER	**ST7066U**
FONT MAP CODE	**E Version**
DRIVING DUTY	**1/16**
DRIVING BIAS	**1/5**

MECHANICAL SPECIFICATIONS

OVERALL SIZE	**40.0W x 35.4H**	**mm**	**THICKNESS**	**max 13.0**	**mm**
VIEWING AREA	**30.4W x 13.9H**	**mm**	**HOLE-HOLE**	**36.0W x 30.0H**	**mm**
CHARACTER SIZE	**2.95W x 4.75H**	**mm**	**CHARACTER PITCH**	**0.40W x 0.40H**	**mm**
DOT SIZE	**0.55W x 0.55H**	**mm**	**DOT PITCH**	**0.05W x 0.05H**	**mm**

ABSOLUTE MAXIMUM RATINGS

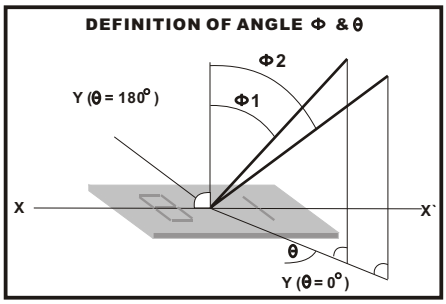
ITEM	SYMBOL	CONDITION	MIN	TYP	MAX	UNIT
POWER SUPPLY (LOGIC)	Vdd	25°C	-0.3	—	7.0	V
POWER SUPPLY (LCD)	V0	25°C	Vdd -13.5	—	Vdd +0.3	V
INPUT VOLTAGE	Vin	25°C	-0.3	—	Vdd +0.3	V
OPERATING TEMPERATURE	Vopr	—	-20	—	70	°C
STORAGE TEMPERATURE	Vstg	—	-30	—	80	°C

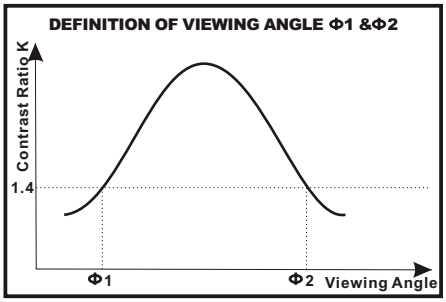
ELECTRONIC CHARACTERISTICS

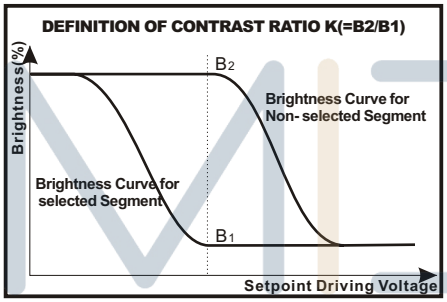
	ITEM	SYMBOL	CONDITION	MIN	TYP	MAX	UNIT
	INPUT VOLTAGE	Vdd	—	—	5.0	—	V
	SUPPLY CURRENT	Idd	Vdd=5V	—	1.5	—	mA
	DRIVING VOLTAGE FOR LCD PANEL	Vlcd = (Vdd - V0)	-20°C	4.40	—	4.70	V
			0°C	4.30	—	4.70	
			25°C	4.20	4.50	4.70	
			50°C	4.10	—	4.60	
			70°C	4.00	—	4.50	

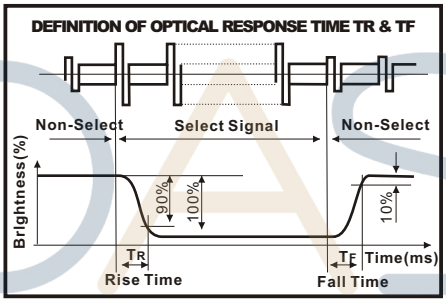
LCD CHARACTERISTICS

FOR STN/FSTN TYPE LCD Panel (TA=25°C, Vlcd=5.0V ± 0.5V)							
	ITEM	SYMBOL	CONDITION	MIN	TYP	MAX	UNIT
	VIEWING ANGLE	Φ2 − Φ1	K=4	40	—	—	deg
		θ		60			
	CONTRAST RATIO	K	—	6	—	—	—
	RESPONSE TIME(RISE)	TR	—	—	150	250	ms
	RESPONSE TIME(FALL)	TF	—	—	150	250	ms









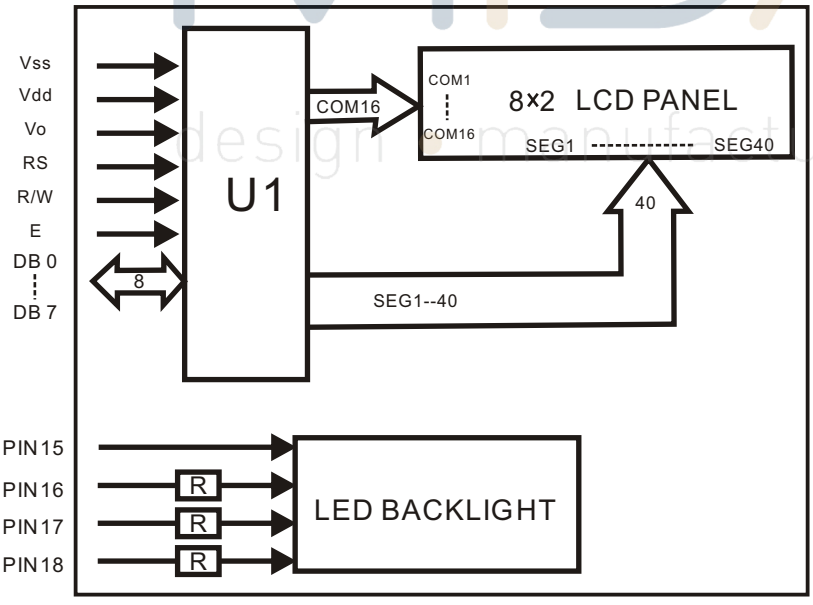
LED CHARACTERISTICS

ICONS	ITEM	SYMBOL	CONDITION	MIN			TYP			MAX			UNIT
				R	G	B	R	G	B	R	G	B	
	LED FORWARD VOLTAGE	Vf	25°C	1.8	2.7	2.7	—	—	—	2.2	3.3	3.3	V
	LED FORWARD CURRENT	If	25°C	—	—	—	15	15	15	—	—	—	mA
	LED REVERSE CURRENT	Ir	25°C	—	—	—	—	—	—	10	10	10	μA
	LED PEAK WAVE LENGTH	λp	25°C	620	520	465	—	—	—	630	530	475	nm
	LED BRIGHTNESS (WITHOUT LCD)	Lv	25°C	—	—	—	130	400	70	—	—	—	cd/m^2
	LED BRIGHTNESS UNIFORMITY	Lvmin/Lvmax	25°C	70			—			—			Ratio
	LED LIFE TIME	—	25°C	9K			—	—	—	—	—	—	Hours

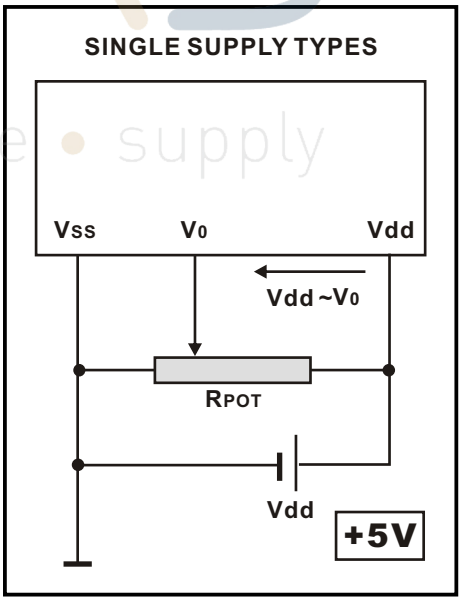
PIN ASSIGNMENT

PIN	SYMBOL	DESCRIPTION	REMARKS
1	Vss	GND	
2	Vdd	Power supply for LCM	5.0V
3	V0	Contrast Adjust	
4	RS	Register Select Signal	
5	R/W	Data Read / Write	
6	E	Enable Signal	
7	DB0	Data bus line	
8	DB1	Data bus line	
9	DB2	Data bus line	
10	DB3	Data bus line	
11	DB4	Data bus line	
12	DB5	Data bus line	
13	DB6	Data bus line	
14	DB7	Data bus line	
15	LED+	Power supply for BKL	5.0V
16	K(B)	Power supply for BKL	0V
17	K(G)	Power supply for BKL	0V
18	K(R)	Power supply for BKL	0V

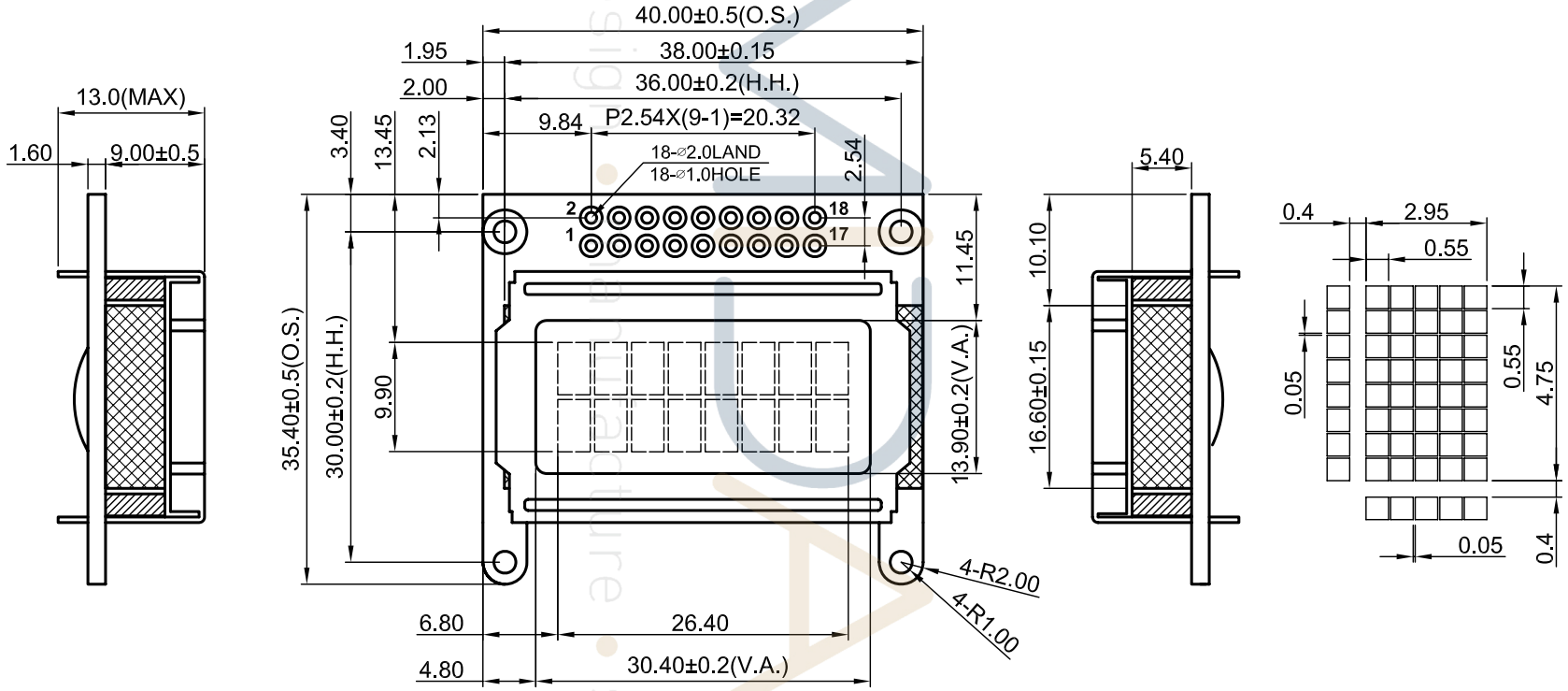
BLOCK DIAGRAM



POWER SUPPLY DIAGRAM



Upper 4bit / Lower 4bit	LLLL	LLLH	LLHL	LLHH	LHLL	LHLH	LHHL	LHHH	HLLL	HLLH	HLHL	HLHH	HHLL	HHLH	HHHL	HHHH
LLLL	CG RAM (1)															
LLLH	(2)															
LLHL	(3)															
LLHH	(4)															
LHLL	(5)															
LHLH	(6)															
LHHL	(7)															
LHHH	(8)															
HLLL	(1)															
HLLH	(2)															
HLHL	(3)															
HLHH	(4)															
HHLL	(5)															
HHLH	(6)															
HHHL	(7)															
HHHH	(8)															


13.0(MAX)
1.60
9.00±0.5
40.00±0.5(O.S.)
38.00±0.15
36.00±0.2(H.H.)
P2.54X(9-1)=20.32
1.95
2.00
9.84
3.40
13.45
2.13
2.54
18-⌀2.0LAND
18-⌀1.0HOLE
2
1
18
17
11.45
13.90±0.2(V.A.)
35.40±0.5(O.S.)
30.00±0.2(H.H.)
9.90
6.80
26.40
4.80
30.40±0.2(V.A.)
4-R2.00
4-R1.00
5.40
10.10
16.60±0.15
0.4
2.95
0.55
0.05
0.55
4.75
0.05
0.4