

MC20805B6W-FPTLWI3.3	2 x 8	5mm Character Height	LCD Module
Specification			
Version: 1		Date: 06/03/2022	
Revision			
1	05/03/2022	First Issue	

Display Features			
Character Count	2 x 8		
Appearance	Black on White		
Logic Voltage	3.3V		
Interface	I ² C		
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		
LED Backlight	White	Box Quantity	Weight / Display

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/Japanese	Black on Yellow/ Green	3V
English/Euro	White on Blue	3.3V
English/Cyrillic	Black on White	5V
	Black on RGB	

FEATURES

AVAILABLE OPTIONS	CHARACTERISTICS
DISPLAY FORMAT	8 Characters by 2 Lines
POLARIZER OPTIONS	Positive Transflective
BACKLIGHT TYPE OPTIONS	Edge Type LED Backlight (Long life span version)
BACKLIGHT COLOR OPTIONS	White color
LCD PANEL OPTIONS	FSTN
VIEWING ANGLE OPTIONS	6:00 (Bottom)
TEMPERATURE RANGE OPTIONS	-20°C ~ 70°C, Single Supply Voltage
SUGGESTED DRIVING VOLTAGE	V_{lcm} = 3.3V V_{led} = 3.3V
SUGGESTED LED DRIVING MODE	PIN15: LED+, PIN16:LED-
CONTROLLER	I2C interface
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)	V _{dd}	25°C	-0.3	—	7.0	V
POWER SUPPLY (LCD)	V ₀	25°C	V_{dd} -13.5	—	V_{dd} +0.3	V
INPUT VOLTAGE	V _{in}	25°C	-0.3	—	V_{dd} +0.3	V
OPERATING TEMPERATURE	V _{opr}	—	-20	—	70	°C
STORAGE TEMPERATURE	V _{stg}	—	-30	—	80	°C

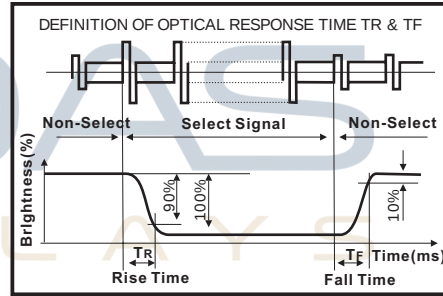
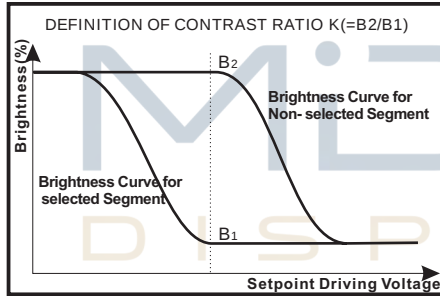
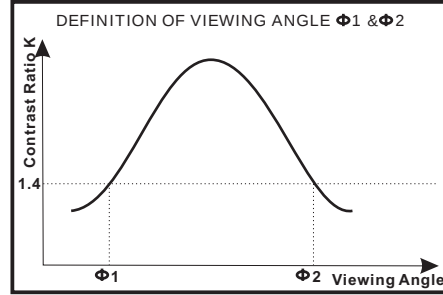
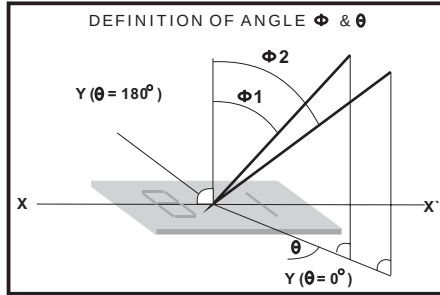
ELECTRONIC CHARACTERISTICS *

	ITEM	SYMBOL	CONDITION	MIN	TYP	MAX	UNIT
	INPUT VOLTAGE	V _{dd}	—		3.3		V
	SUPPLY CURRENT	I _{dd}	V_{dd}=3.3V	—	1.5	—	mA
	DRIVING VOLTAGE FOR LCD PANEL	V _{lcd} = (V _{dd} - V ₀)	-20°C	—	—	—	V
			0°C	—	—	—	
			25°C	—	—	—	
			50°C	—	—	—	
			70°C	—	—	—	

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	$\Phi 2 - \Phi 1$	K=4	40	—	—	deg
	θ		60			
CONTRAST RATIO	K	—	6	—	—	—
RESPONSE TIME(RISE)	TR	—	—	150	250	ms
RESPONSE TIME(FALL)	TF	—	—	150	250	ms



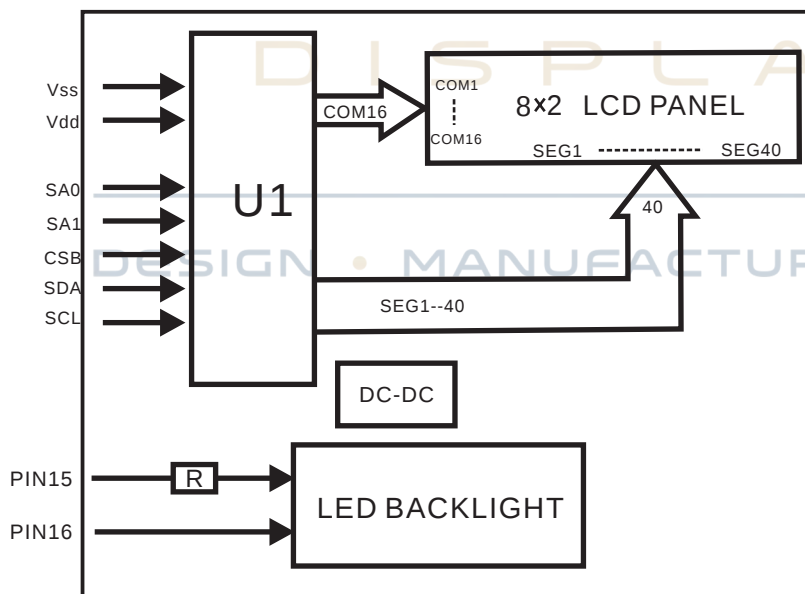
LED CHARACTERISTICS

ITEM	SYMBOL	CONDITION	MIN	TYP	MAX	UNIT
LED FORWARD VOLTAGE	Vf	25 °C If = 15mA	—	3.3	—	V
LED FORWARD CURRENT	If	25 °C	—	15	—	mA
LED REVERSE CURRENT	Ir	25 °C Vr=5.0V	—	—	30	μA
LED COLOR RANGE	X coordinate	25 °C If = 15mA	0.26	—	0.30	—
	Y coordinate		0.27	—	0.31	—
LED BRIGHTNESS (WITHOUT LCD)	Lv	25 °C If = 15mA	—	370	—	cd/m ²
LED BRIGHTNESS UNIFORMITY	Lvmin/Lvmax	25 °C If = 15mA	70	—	—	Ratio
LED LIFE TIME	—	25 °C If = 15mA	20K	—	—	Hours

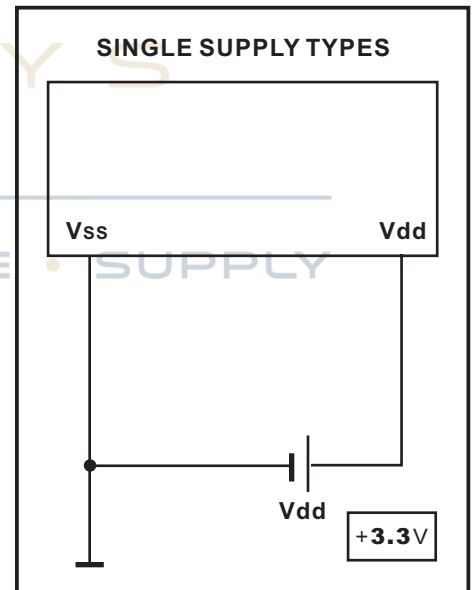
PIN ASSIGNMENT

PIN	SYMBOL	DESCRIPTION	REMARKS
1	Vss	GND	
2	Vdd	Power supply for LCM	3.3V
3	NC	No connection	
4	NC	No connection	
5	NC	No connection	
6	NC	No connection	
7	SA0	Slave address	
8	SA1	Slave address	
9	NC	No connection	
10	NC	No connection	
11	NC	No connection	
12	CSB	Chip select	
13	SDA	Serial input data	
14	SCL	Serial clock input	
15	LED+	Power supply for BKL	3.3V
16	LED-	Power supply for BKL	

BLOCK DIAGRAM



POWER SUPPLY DIAGRAM



Upper 4bit Lower 4bit	LLLL	LLHH	LLHL	LLHH	LHLL	LHLH	LHHL	LHHH	HLLL	HLLH	HLHL	HLHH	HHLL	HHLH	HHHL	HHHH
LLLL	CG RAM (1)															
LLHH	(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)															

