

MC20805A6W-BNMLW-V2	2 x 8	5mm Character Height	LCD Module
Specification			
Version: 1		Date: 15/04/2017	
Revision			
1	15/04/2017	First Release.	

Display Features			
Character Count	2 x 8		
Appearance	White on Blue		
Logic Voltage	5V		
Interface	Parallel		
Font Set	English / Japanese		
Display Mode	Transmissive		
Character Height	5.56mm		
LC Type	BSTN		
Module Size	58.0 x 32.0 x 13.5 mm		
Operating Temperature	-20°C ~ +70°C		
Construction	COB		
LED Backlight	White		
		Box Quantity	Weight / Display
		45 pcs	28.8 grams

* - 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



MECHANICAL SPECIFICATIONS

OVERALL SIZE	58.0W x 32.0H	mm	THICKNESS	max 13.5	mm
VIEWING AREA	38.0W x 16.0H	mm	HOLE-HOLE	53.0W x 27.0H	mm
CHARACTER SIZE	2.96W x 5.56H	mm	CHARACTER PITCH	0.59W x 0.36H	mm
DOT SIZE	0.56W x 0.66H	mm	DOT PITCH	0.04W x 0.04H	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*

ICONS	ITEM	SYMBOL	CONDITION	MIN	TYP	MAX	UNIT
	INPUT VOLTAGE	Vlcm = Vdd	—	4.7	5.0	5.5	V
	SUPPLY CURRENT	Idd	Vdd=5V	—	1.5	—	mA
	DRIVING VOLTAGE FOR LCD PANEL	Vlcd = (Vdd - V0)	-20 °C	4.50	—	4.80	V
			0 °C	4.40	—	4.75	
			25 °C	4.30	4.50	4.70	
			50 °C	4.20	—	4.70	
			70 °C	4.10	—	4.70	

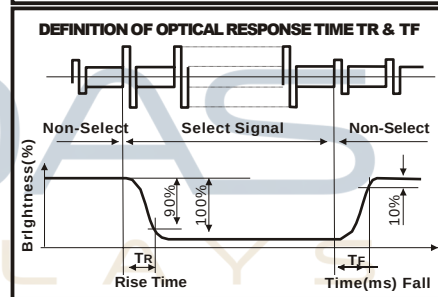
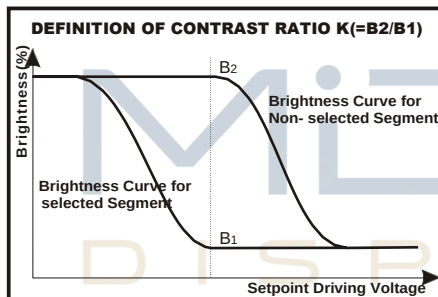
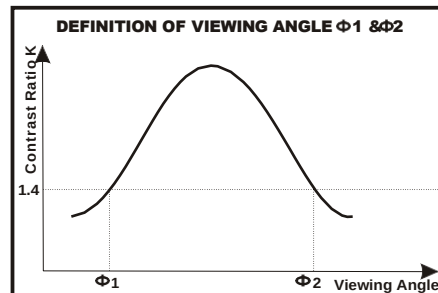
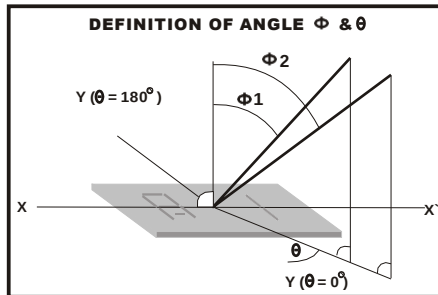
DISPLAYS

DESIGN • MANUFACTURE • SUPPLY



LCD CHARACTERISTICS

FOR STN/FSTN TYPE LCD Panel (TA=25 C, Vlcd=5.0V ± 0.5V)							
ICONS	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	2.8	—	3.1	V
LED FORWARD CURRENT ▲2	If	25 °C	—	15	—	mA
LED REVERSE CURRENT	Ir	25 °C Vr=5.0V	—	—	10	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	—	415	—	cd/m ²
LED BRIGHTNESS UNIFORMITY	Lvmin/Lvmax	25 °C If = 15mA	70	—	—	Ratio
LED LIFE TIME ▲3	—	25 °C If = 15mA	9K	—	—	Hours

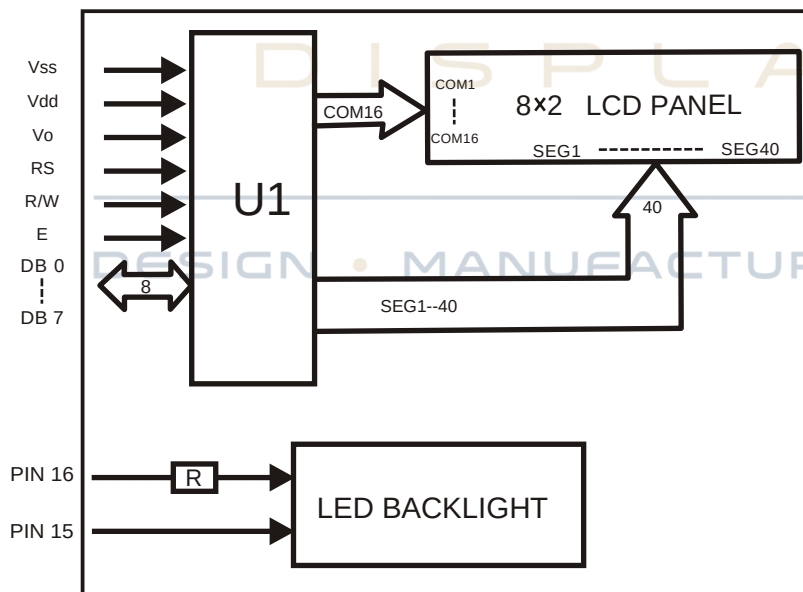
YOUR ATTENTION: It is constant current (not constant voltage) that should be applied when driving LED backlight. Therefore, this data is very important!

If you want to drive the LED Backlight uninterruptedly over 8 hours, this version is not suggested. Please consult long life design solution from Midas Displays

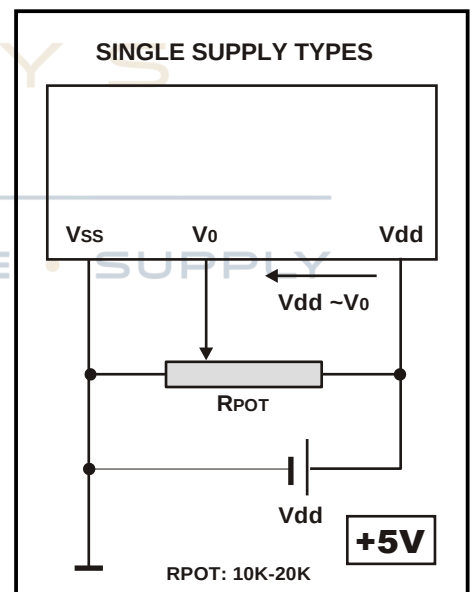
PIN ASSIGNMENT

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	LED-	Power supply for BKL	

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)																	

