


MCOB42005A1V-EBP	4 x 20	Euro/Jap/Cyrillic	OLED Module
<b>Specification</b>			
Version: 5		Date: 25/07/2017	
<b>Revision</b>			
1	18/03/2013	First issue.	
2	30/04/2014	Update Rev.	
3	16/06/2014	Add low temperature storage.	
4	04/05/2015	Modify IDD.	
5	01/06/2016	Modify static electricity test.	

Display Features			Box Quantity	Weight / Display
Character Count	4 x 20			
Appearance	Blue on Black			
Logic Voltage	5V			
Interface	Parallel			
Font Set	English / Japanese / Cyrillic			
Character Height	4.75			
Module Size	98.00 x 60.00 x 10.00 mm			
Operating Temperature	-40°C ~ +80°C			
Construction	COB			

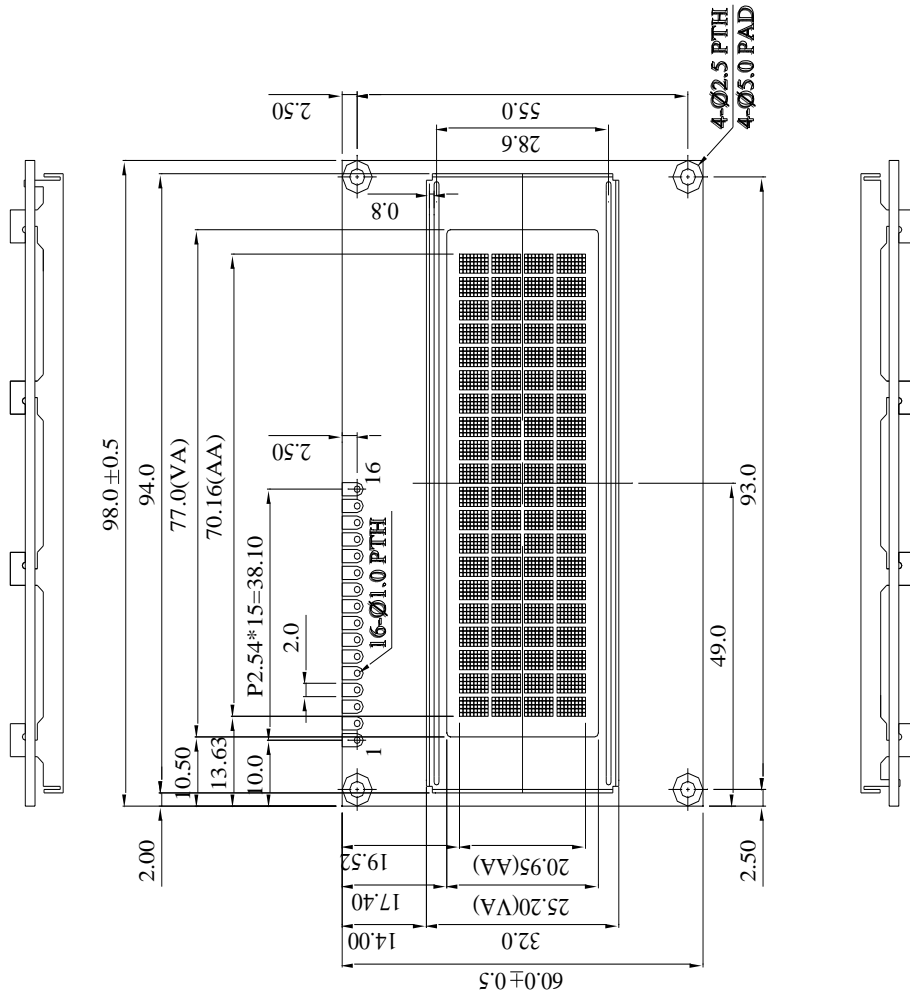
\* - For full design functionality, please use this specification in conjunction with the MCIC1302EUM specification.(Provided Separately)

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.
MCCBL1A16SILP-DILS-150	16 Way, Sual in-line to Dual in- line connector cable.
MCCBL1A16SILP-SILS-150	16 Way, Sual in-line to Single in- line connector cable.

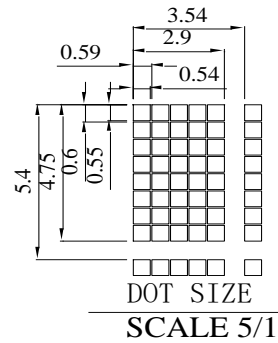
Optional Variants	
Appearance	Voltage
Yellow on Black White on Black Green on Black Red on Black	

# Mechanical Specifications

Module Size	98.00 x 60.00 x 10.00 (Without Backlight)				W x H x D mm
Viewing Area	77.00 x 25.20	W x H mm	Hole-to-Hole	93.00 x 55.00	W x H mm
Character Size	2.90 x 4.75	W x H mm	Character Pitch	3.54 x 5.40	W x H mm
Dot Size	0.54 x 0.55	W x H mm	Dot Pitch	0.59 x 0.60	W x H mm

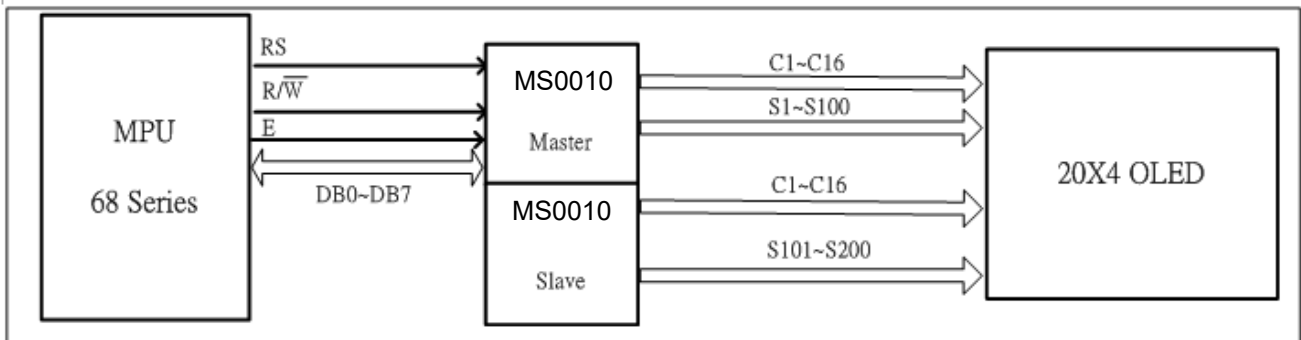


The non-specified tolerance of dimension is  $\pm 0.3\text{mm}$ .



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Pin layout			
Pin	Symbol	Description	Remarks
1	VSS	Ground	
2	VDD	Supply Voltage for Logic	5.0V
3	NC	No Connection	
4	RS	H: Data L: Instruction Code	
5	R/W	H: Read L: Write	
6	E	Chip 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	NC	No Connection	
16	NC	No Connection	



Address Format	DB7	DB6	DB5	DB4	DB3	DB2	DB1	DB0
CA (Character Address)	1	ADD6	ADD5	ADD4	ADD3	ADD2	ADD1	ADD0

Display Position	1	2	3	4	...	...	17	18	19	20
DD RAM Address	00	01	02	03	...	...	10	11	12	13
DD RAM Address	40	41	42	43	...	...	50	51	52	53
DD RAM Address	14	15	16	17	...	...	24	25	26	27
DD RAM Address	54	55	56	57	...	...	64	65	66	67

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# Font Map

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)															
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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)															
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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)															
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Absolute Maximum Ratings						
Item	Symbol	Condition	Min	Typ	Max	Unit
Power Supply (Logic)	VDD	25°C	-0.3	---	5.3	V
Operating Temperature	TOP	---	-40	---	80	°C
Storage Temperature	TST	---	-40	---	80	°C

Electronic Characteristics						
Item	Symbol	Condition	Minimum	Typical	Maximum	Unit
Input High Voltage	VIH	---	0.80	---	VDD	V
Input Low Voltage	VIL	---	GND	---	0.20	V
Output High Voltage	VOH	IOH=-0.5mA	0.80	---	VDD	V
Output Low Voltage	VOL	IOL=0.5mA	GND	---	0.20	V
Supply Voltage for Logic	VDD~VSS	---	4.80	5.00	5.30	V
CIE <sub>x</sub> (Blue)	---	x,y(CIE1931)	0.12	0.16	0.20	---
CIE <sub>y</sub> (Blue)	---	x,y(CIE1931)	0.19	0.23	0.27	---
50% Checkboard Operating Current	IDD	VDD=5V	57	60	63	mA

OLED Characteristics						
Item	Symbol	Condition	Minimum	Typical	Maximum	Unit
Viewing Angle	(V) $\theta$	---	160	---	---	Deg
	(H) $\phi$	---	160	---	---	Deg
Contrast Ratio	CR	Dark	2000:1	---	---	---
Response Time	T Rise	---	---	10	---	$\mu$ s
	T Fall	---	---	10	---	$\mu$ s
Display with 50% Checkboard Brightness			50	60	---	Nits

OLED Life Time			
Item	Conditions	Typical	Remark
Operating Life Time	Ta=25°C. Initial checkboard brightness, 50%	50,000 Hours	---

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