


MCOB21603A1V-EYP	2 x 16	Euro/Jap/Cyrillic	OLED Module
Specification			
Version: 1		Date: 16/05/2017	
Revision			

Display Features					
Character Count	2 x 16			Box Quantity	Weight / Display
Appearance	Yellow on Black				
Logic Voltage	5V				
Interface	Parallel				
Font Set	English / European / Cyrillic				
Character Height	3.11 mm				
Module Size	53.00 x 20.00 x 7.60 mm				
Operating Temperature	-40°C ~ +80°C				
Construction	COB	---	---		

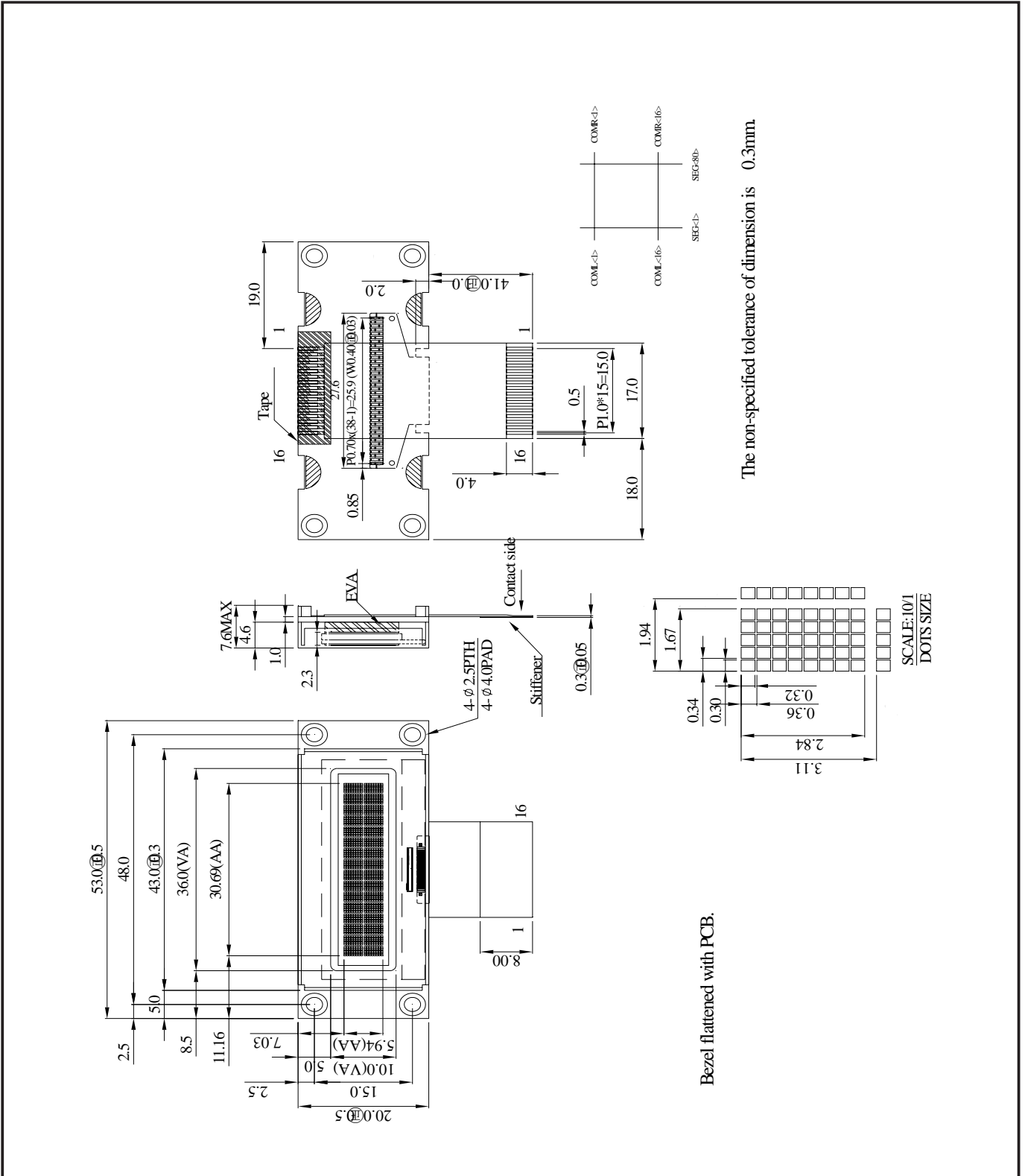
* - For full design functionality, please use this specification in conjunction with the MS0010 specification. (Provided Separately)

Display Accessories	
Part Number	Description

Optional Variants	
Appearance	Voltage

Mechanical Specifications

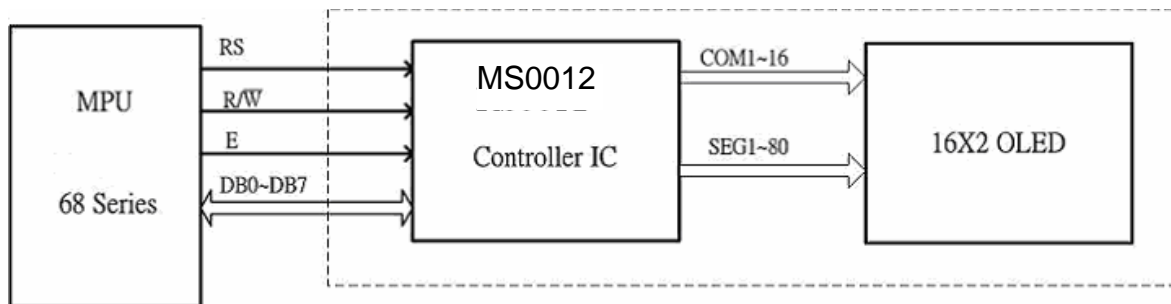
Module Size	53.00 x 20.00 x 7.60 (With Backlight)				W x H x D mm
Viewing Area	36.00 x 10.00	W x H mm	Hole-to-Hole	48.00 x 15.00	W x H mm
Character Size	1.67 x 2.84	W x H mm	Character Pitch	1.94 x 3.11	W x H mm
Dot Size	0.30 x 0.32	W x H mm	Dot Pitch	0.34 x 0.36	W x H mm



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Pin layout

Pin	Symbol	Description	Remarks
1	VSS	Ground	
2	VDD	Supply Voltage for Logic	5V
3	NC	No Connection	
4	RS	H: Data L: Instruction Code	H/L
5	R/W	H: Read(MPU-->Module) L: Write(MPU-->Module)	H/L
6	E	Chip Enable Signal	H, H -->L
7	DB0	Data Bus Line	H/L
8	DB1	Data Bus Line	H/L
9	DB2	Data Bus Line	H/L
10	DB3	Data Bus Line	H/L
11	DB4	Data Bus Line	H/L
12	DB5	Data Bus Line	H/L
13	DB6	Data Bus Line	H/L
14	DB7	Data Bus Line	H/L
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

1	2	3	4	.....	.....	13	14	15	16
CA1000000	CA1000001	CA1000010	CA1000011	.....	.....	CA1000100	CA1000101	CA1000110	CA1000111
CA1100000	CA1100001	CA1100010	CA1100011	CA1100100	CA1100101	CA1100110	CA1100111

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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)															
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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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LLLL	CG RAM (1)															
LLLH	(2)															
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Absolute Maximums Ratings					
Item	Symbol	Minimum	Typical	Maximum	Unit
Supply Voltage for Logic	VDD-VSS	-0.30	---	6.50	V
	V16	-0.30	---	19.00	V
Input Voltage	VI	-0.30	---	VDD+0.30	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	---	0.90	---	VDD	V
Input Low Voltage	VIL	---	GND	---	0.10	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	---	4.70	5.00	5.30	V
50% Checkboard Operating Current.	IDD	VDD=5V	10	18	26	mA

OLED Characteristics						
Item	Symbol	Condition	Minimum	Typical	Maximum	Unit
Viewing Angle	(V) θ	---	160	---	---	Deg
	(H) ϕ	---	160	---	---	Deg
Contrast Ratio	CR	Dark	2000:1	---	---	---
Response Time	T Rise	---	---	10	---	μ s
	T Fall	---	---	10	---	μ s
Display with 50% Checkboard Brightness			130	180	---	cd/m ²
CIEx(Yellow)		(CIE1931)	0.45	0.47	0.49	---
CIEy(Yellow)		(CIE1931)	0.48	0.50	0.52	---

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

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