MCCOG21605B6W-FPTLWI	2 x 16	5mm Character Height	LCD Module

Specification

Version: 1	Date: 19/10/2016

Revision

Display Features	
Character Count	2 x 16
Appearance	Black on White
Logic Voltage	5V
Interface	I2C
Font Set	English / Japanese
Display Mode	Transflective
Character Height	3.79mm
LC Type	FSTN
Module Size	51.20 x 20.70 x 6.30 mm
Operating Temperature	-20°C ~ +70°C
Construction	COG
LED Backlight	White

	Box Quantity	Weight / Display
Construction (COG)	---	---
LED Backlight (White)		

RoHS compliant

* - For full design functionality, please use this specification in conjunction with the ST7032I specification. (Provided Separately)

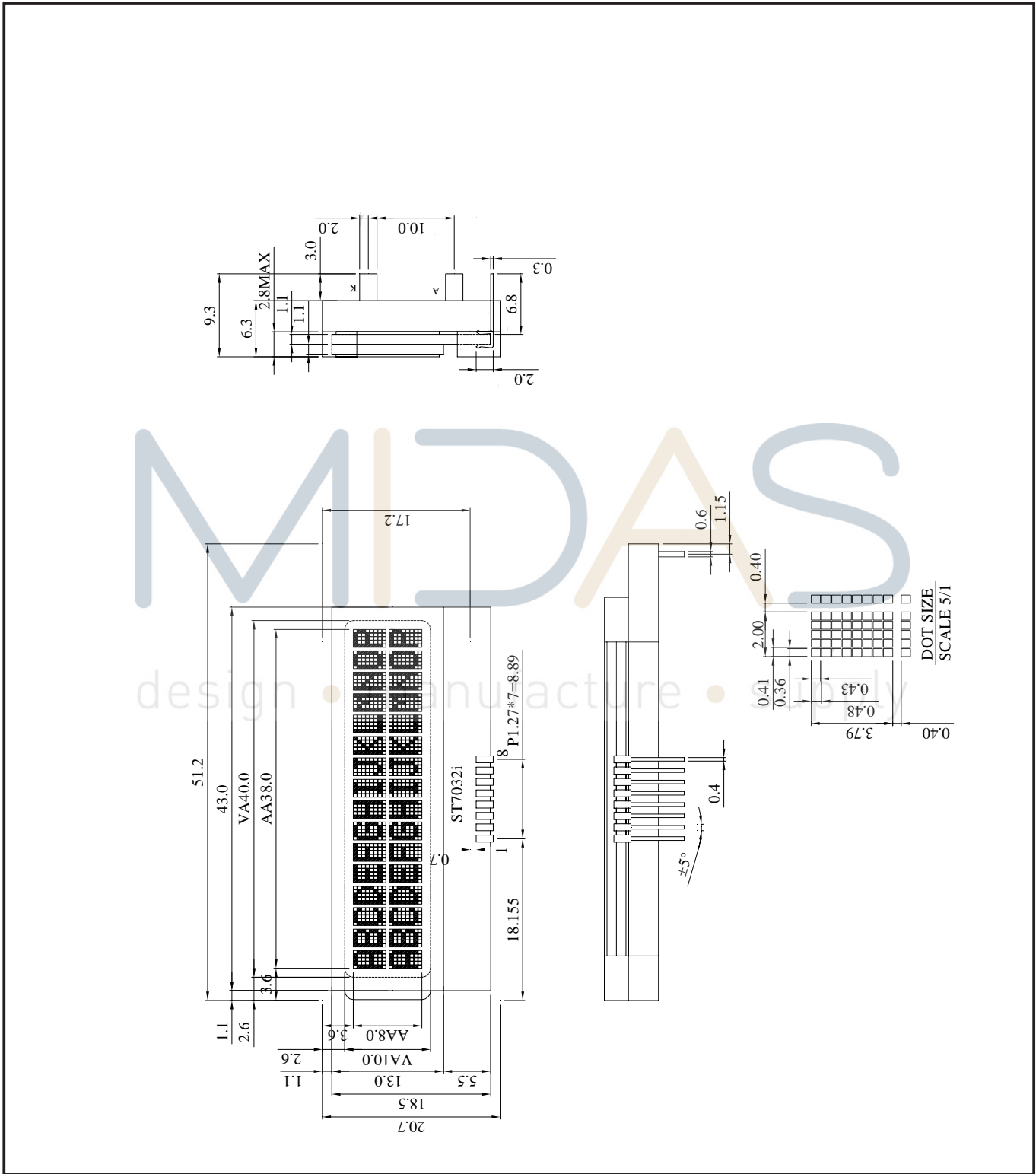| Display Accessories	
Part Number	Description
MCCOG-I2C-I-8	Fine pitch(1.27mm) COG I2C interface board. Compatible with both Arduino and UC32 controller boards.

Optional Variants		
Fonts	Appearances	Voltage
	Black on Yellow/Green White on Blue	

Mechanical Specifications

Module Size	51.20 x 20.70 x 6.30 (With Backlight)				W x H x D mm
Viewing Area	40.00 x 10.00	W x H mm	Hole-to-Hole	---	W x H mm
Character Size	2.00 x 3.79	W x H mm	Character Pitch	2.40 x 4.19	W x H mm
Dot Size	0.36 x 0.43	W x H mm	Dot Pitch	0.41 x 0.48	W x H mm

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Pin Layout

PI	SYMBOL	DESCRIPTION	REMARKS
1	VOUT	DC/DC Voltage Converter	
2	CAP1N	Voltage booster Circuit (VDD-VSS)	
3	CAP1P		
4	VDD	Power Supply	5.0V
5	VSS	Ground	
6	SDA	Input Data	
7	SCL	Clock Input Data	
8	RST	Reset	

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)															
HHHH	(8)															

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Absolute Maximums Ratings

Item	Symbol	Minimum	Typical	Maximum	Unit
Power Supply (Logic)	Vdd	-0.3	---	6.0	V
Power Supply (LCD)	V0	7.0 -Vss	---	-0.3 +Vss	V
---	---	---	---	---	---
Operating Temperature	T_{OP}	-20°C	---	70°C	°C
Storage temperature	T_{ST}	-30°C	---	80°C	°C

Electronic Characteristics

Item	Symbol	Condition	Minimum	Typical	Maximum	Unit
Input Voltage High	V_{IH}	---	0.70	---	V_{DD}	V
Input Voltage Low	V_{IL}	---	---	---	0.20	V
Output Voltage High	V_{OH}	---	0.80	---	V_{DD}	V
Output Voltage Low	V_{OL}	---	---	---	0.20	V
Supply Voltage Logic	$V_{DD} \sim V_{SS}$	---	3.00	3.30	5.00	V
Supply Voltage LCD	$V_{DD} \sim V_0$	Ta=25°C	---	4.50	---	V
Supply Current	I_{DD}	---	---	0.17	---	mA

LCD Characteristics

For STN/FSTN LCD Panel Types

Item	Symbol	Condition	Minimum	Typical	Maximum	Unit
Viewing Angle	Φ2 – Φ1	CR ≥ 2	20		40	ψ=180°
	Θ	---	-30		30	
Contrast Ratio	CR	---	---	3	---	---
Response Time (Rise)	TR	---	---	250	400	ms
Response Time (Fall)	TF	---	---	100	250	ms

LED Characteristics

Item	Symbol	Condition	Minimum	Typical	Maximum	Unit
Supply Current	ILED	V=3.5V	28.80	32	50	mA
Supply Voltage	V	---	3.40	3.50	3.60	V
Reverse Voltage	VR	---	---	---	5	V
Luminance (Without LCD)	IV	ILED=32mA	468.80	586	---	Cd/m²
---	---	---	---	---	---	---
LED Life Time	---	ILED=32mA	---	50K	---	Hour

Attention: It is constant current, not constant voltage, which should be applied when driving the LED backlight, please ensure you adhere to this rule.

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