


MCCOG21605B6W-SPTLYI	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 Yellow/Green				
Logic Voltage	5V				
Interface	I2C				
Font Set	English / Japanese				
Display Mode	Transflective				
Character Height	3.79mm				
LC Type	STN				
Module Size	51.20 x 20.70 x 6.30 mm				
Operating Temperature	-20°C ~ +70°C				
Construction	COG			Box Quantity	Weight / Display
LED Backlight	Yellow/Green	---	---		

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

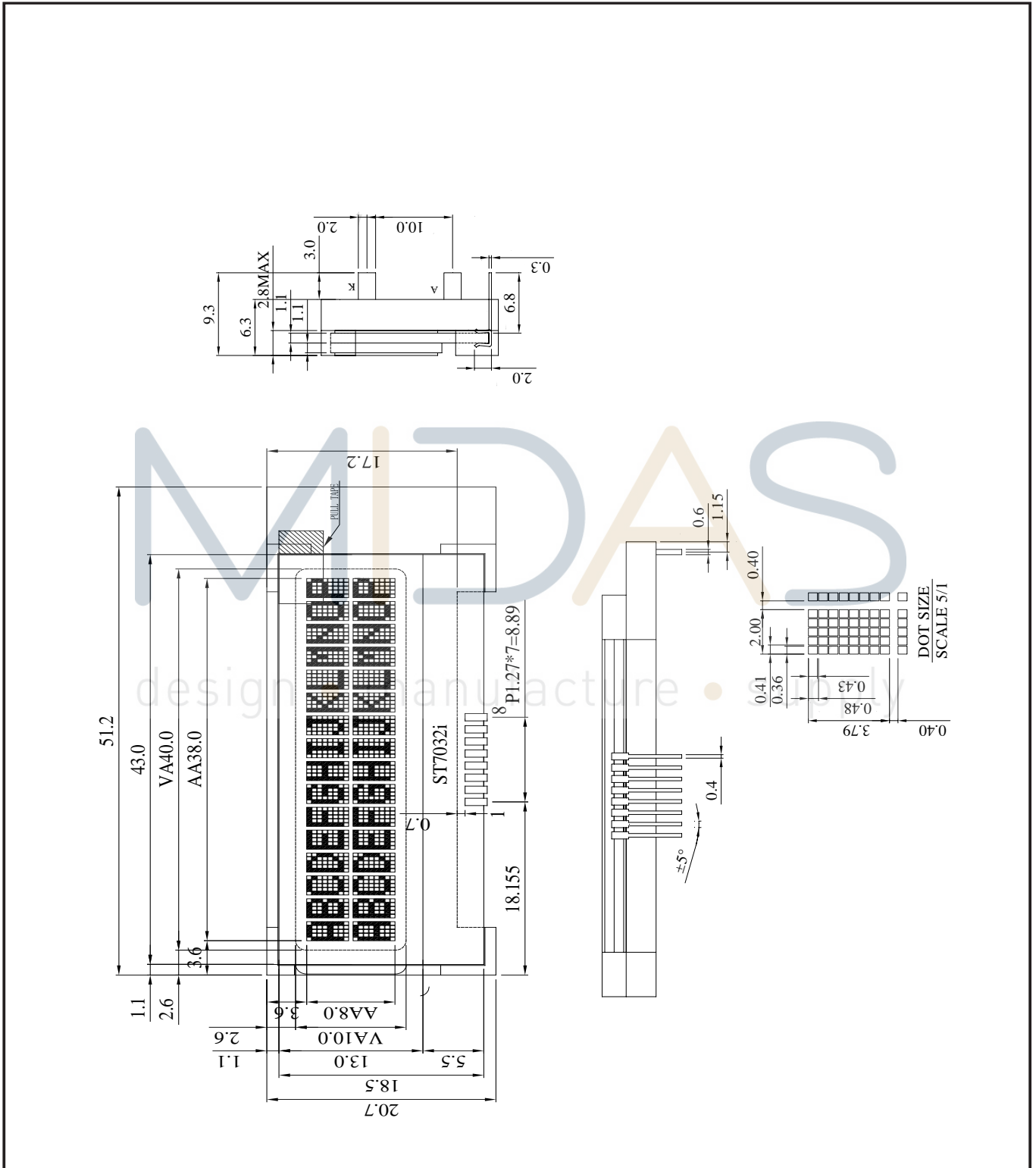
Display Accessories	
Part Number	Description
MCCOG-I2C-I-8	Fine pitch(1.27mm) COG I2C interface board. Compatible with both Arduino and UC32 controller boards.

Optional Variants		
Fonts	Appearances	Voltage
	Black on White 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	



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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)															
HHHH	(8)															

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Absolute Maximums Ratings						
Item	Symbol	Minimum	Typical	Maximum	Unit	
Power Supply (Logic)	V _{DD}	-0.3	---	6.0	V	
Power Supply (LCD)	V _O	7.0 -V _{SS}	---	-0.3 +V _{SS}	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} - V _{SS}	---	3.00	3.30	5.00	V
Supply Voltage LCD	V _{DD} - V _O	T _a =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	Φ ₂ - Φ ₁	CR ≥ 2	20		40	ψ=180°
	Θ	---	-30		30	
Contrast Ratio	CR	---	---	3	---	---
Response Time (Rise)	T _R	---	---	250	400	ms
Response Time (Fall)	T _F	---	---	100	250	ms

LED Characteristics						
Item	Symbol	Condition	Minimum	Typical	Maximum	Unit
Supply Current	I _{LED}	V=3.5V	28.80	32	50	mA
Supply Voltage	V	---	3.40	3.50	3.60	V
Reverse Voltage	V _R	---	---	---	5	V
Luminance (Without LCD)	I _V	I _{LED} =32mA	892	1116	---	Cd/m ²
Wave Length	λ _p	I _{LED} =32mA	565	---	575	---
LED Life Time	---	I _{LED} =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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