

MCCOG21608A6W-FPTLWI	2 x 16	8mm 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	7.69mm		
LC Type	FSTN		
Module Size	85.00 x 30.00 x 6.20 mm		
Operating Temperature	-20°C ~ +70°C		
Construction	COG		
LED Backlight	White	Box Quantity	Weight / Display
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* - 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 Black on White	



Mechanical Specifications					
Module Size	85.00 x 30.00 x 6.20 (With Backlight)				W x H x D mm
Viewing Area	76.00 x 18.00	W x H mm	Hole-to-Hole	---	W x H mm
Character Size	3.91 x 7.69	W x H mm	Character Pitch	4.66 x 8.19	W x H mm
Dot Size	0.75 x 0.90	W x H mm	Dot Pitch	0.79 x 0.97	W x H mm

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Pin Layout			
PI	SYMBOL	DESCRIPTION	REMARKS
1	VOUT	DC/DC Voltage Converter	
2	CAP-	Voltage booster Circuit (VDD-VSS)	
3	CAP+		
4	VDD	Power Supply	5.0V
5	VSS	Ground	
6	SDATA	Input Data	
7	SCLK	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 ₀	2.7	---	7.0	V
Input Voltage	V _{IN}	-0.3	---	V _{DD} +0.3	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 ₀	Ta=25°C	4.30	4.50	4.70	V
Supply Current	I _{DD}	---	---	---	2.00	mA

LCD Characteristics						
For STN/FSTN LCD Panel Types						
Item	Symbol	Condition	Minimum	Typical	Maximum	Unit
Viewing Angle	Φ2 – Φ1	CR ≥ 2	0	---	20	ψ=180°
	Θ	---				
Contrast Ratio	CR	---	---	3	---	---
Response Time (Rise)	TR	---	---	150	200	ms
Response Time (Fall)	TF	---	---	150	200	ms

LED Characteristics						
Item	Symbol	Condition	Minimum	Typical	Maximum	Unit
Supply Current	I _{LED}	v=3.5V	---	32	40	mA
Supply Voltage	V	---	3.4	3.5	3.6	V
Reverse Voltage	V _R	---	---	---	5	V
Colour Coordinate	X	V=3.5V	0.24	0.26	0.28	---
	Y	V=3.5V	0.25	0.27	0.29	---
Luminance (without LCD)	I _V	LED=32mA	536	670	---	Cd/m ²
LED Life Time	---	I _{LED} =32mA	---	50K	---	Hours

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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