


MCCOG128064C6W-FPTLW	128 x 64	N/A	LCD Module
<b>Specification</b>			
Version: 1		Date: 31/10/2016	
<b>Revision</b>			

Display Features					
Resolution	128 x 64				
Appearance	Black on White				
Logic Voltage	5V				
Interface	Parallel / SPI				
Font Set	N/A				
Display Mode	Transflective				
LC Type	FSTN				
Module Size	89.70 x 49.80 x 12.10				
Operating Temperature	-20°C ~ +70°C				
Construction	COG	Box Quantity	Weight / Display		
LED Backlight	White	---	---		

\* - For full design functionality, please use this specification in conjunction with the ST7565P specification. (Provided Separately)

Display Accessories	
Part Number	Description
MCIB-12	UNO 32 Breakout Board with SD Card and LED BKL driver.
MPBV-7	30-Way FFC to Cable and Wires 0.5mm Pitch.

Optional Variants	
Appearances	Voltage

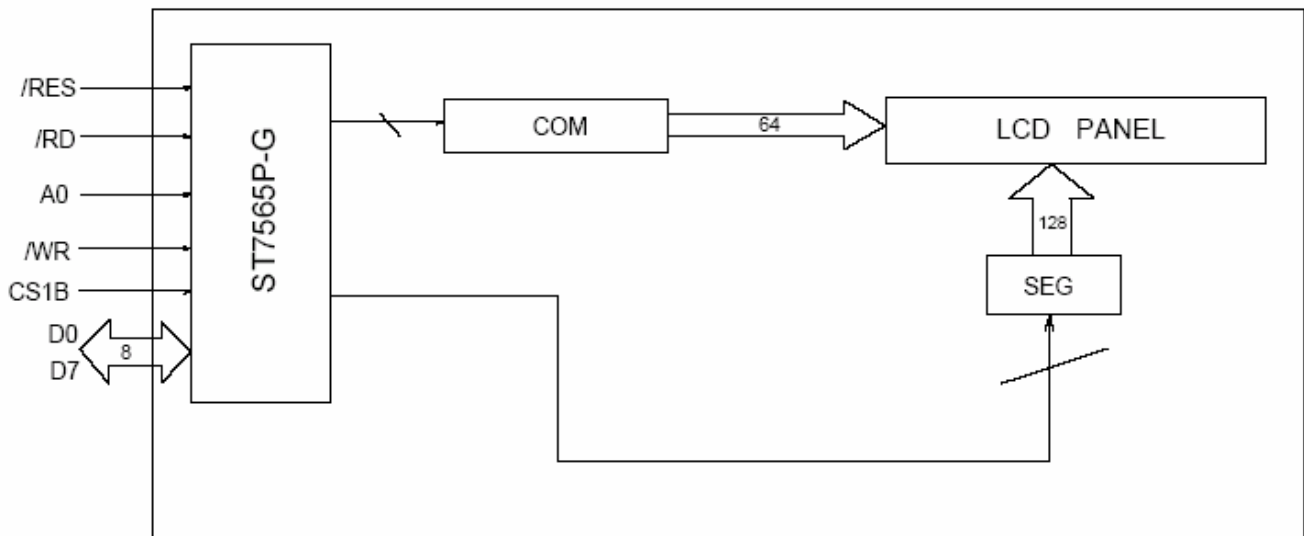




## Pin layout

Pin	Symbol	Description	Remarks
1	/CS1B	This is the chip select signal.	
2	/RES	Res = L Settings are Initialised.	
3	A0	Address Bus. Determines whether data bits are data or command.	
4	/WR(R/W)	Data Bus latched at rising edge of WR Signal.	
5	/RD(E)	When signal = L, Data Bus in output status.	
6~13	D0~D7	8 bit bi-directional data bus, connects to 8 or 16 bit MPU Data Bus.	
14	VDD	Power Supply	
15	VSS	Ground	
16	VOUT	DC/DC Converter. Capacitor between this terminal and VSS/VDD.	
17	CAP3P	DC/DC Converter. Capacitor between this terminal and CAP1N terminal.	
18	CAP1N	DC/DC Converter. Capacitor between this terminal and CAP1P terminal.	
19	CAP1P	DC/DC Converter. Capacitor between this terminal and CAP1N terminal.	
20	CAP2P	DC/DC Converter. Capacitor between this terminal and CAP2N terminal.	
21	CAP2N	DC/DC Converter. Capacitor between this terminal and CAP2P terminal.	
22~26	V4~V0	Multi-level power supply for LC drive.	
27	VR	Output Voltage Regulator Terminal, provides voltage for VSS and V0 through resistive voltage divider.	
28	C86	MPU interface switch terminal.	
29	P/S	Parallel Data Input/Serial data switch terminal.	
30	NC	No Connection.	

DESIGN • MANUFACTURE • SUPPLY



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Absolute Maximums Ratings						
Item	Symbol	Minimum	Typical	Maximum	Unit	
Input Voltage High	$V_{IH}$	0.3	---	V <sub>DD</sub>	V	
Input Voltage Low	$V_{IL}$	0.3	---	V <sub>SS</sub>	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	$V_{IH}$	---	0.80	---	V <sub>DD</sub>	V
Input Voltage Low	$V_{IL}$	---	V <sub>SS</sub>	---	0.20	V
Output Voltage High	$V_{OH}$	---	0.80	---	V <sub>DD</sub>	V
Output Voltage Low	$V_{OL}$	---	V <sub>SS</sub>	---	0.20	V
Supply Voltage Logic	$V_{DD} - V_{SS}$	---	3.00	3.30	3.60	V
Supply Voltage LCD	$V_{SS} - V_5$	T <sub>a</sub> =25°C	9.25	9.45	9.65	V
Supply Current	$I_{DD}$	V <sub>DD</sub> =3.3V	---	0.60	2.00	mA

LCD Characteristics						
For STN/FSTN LCD Panel Types						
Item	Symbol	Condition	Minimum	Typical	Maximum	Unit
Viewing Angle	$\Phi_2 - \Phi_1$	CR ≥ 2	30	---	60	°
	$\Theta$	CR ≥ 2	-45	---	45	
Contrast Ratio	CR	---	---	---	---	---
Response Time (Rise)	TR	---	---	---	210	ms
Response Time (Fall)	TF	---	---	---	---	ms

LED Characteristics						
Item	Symbol	Condition	Minimum	Typical	Maximum	Unit
Supply Current	I <sub>LED</sub>	V=3.50V	61.20	72	100	mA
Supply Voltage	V	---	3.40	3.50	3.60	V
Reverse Voltage	V <sub>R</sub>	---	---	---	5	V
Luminance (Without LCD)	I <sub>V</sub>	I <sub>LED</sub> =72mA	600	800	---	Cd/m <sup>2</sup>
Wave Length	λ <sub>P</sub>	I <sub>LED</sub> =72mA	---	---	---	---
LED Life Time	---	I <sub>LED</sub> =72mA	---	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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