

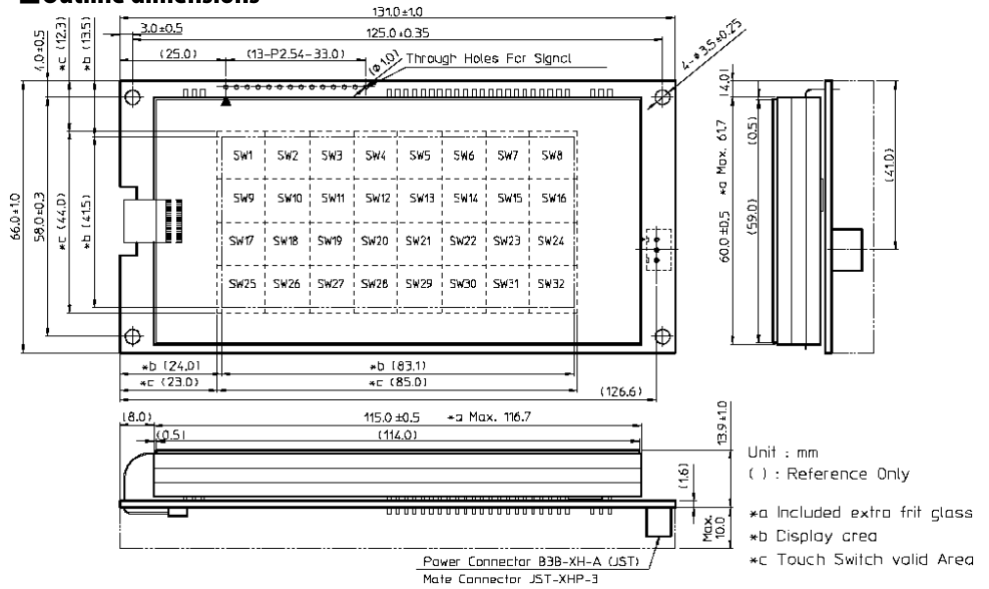
# GU256X128C-D903M

## SIMPLIFIED DATASHEET

### Features

256x128 pixel graphic  
VFD Module equips  
32(8x4) Capacitive Touch  
Switches.  
(Mutual Capacitive Type)

### Outline dimensions



Unit : mm  
( ) : Reference Only  
\*a Included extra frit glass  
\*b Display area  
\*c Touch Switch valid Area

### Get full specification



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### Specification

**Electrical Ratings** Note: Logic input I/O is 3.3V C-MOS level.

Parameter	Symbo	Min.	Typ.	Max.	Unit	Condition
Power Supply Voltage	VCC	4.75	5.00	5.25	VDC	

**Electrical Characteristic** Please refer to a full specification for Characteristics of I/O ort.

Parameter	Symbo	Min.	Typ.	Max.	Unit	Condition
I2C Logic Input Current	IIH-1	-	-	1	uADC	VIN=3.3V
SDA,SCL,/RESET	IIL-1	-	-	-0.5	mADC	VIN=0V
I2C Logic Input Voltage	VIH-1	2.7	-	-	VDC	-
SDA,SCL,/RESET	VIL-1	-	-	0.6	VDC	-
I2C Logic Output Voltage S	VOL-1	-	-	0.8	VDC	IOL=2mA
I2C Logic Output Voltage	VOH-2	2.6	-	-	VDC	IOH=-0.5mA
MBUSY,/TRDY	VOL-2	-	-	0.9	VDC	IOL=1mA
Logic Input Current RxD	IIH-2	-	-	1	uADC	VIN=3.3V
MOSI,SCK,/CS,HBUSY,/RESET	IIL-2	-	-	-0.5	mADC	VIN=0V
Logic Input Voltage RXD	VIH-2	2.7	-	-	VDC	-
MOSI,SCK,/CS,HBUSY,/RESET	VIL-2	-	-	0.6	VDC	-
Logic Output Voltage	VOH-3	2.6	-	-	VDC	IOH=-0.5mA
TXD,MISO,MBUSY,/TRDY	VOL-3	-	-	0.9	VDC	IOL=1.0mA
Output permission current	IOH/L	-	-	±3	mA	Per port(8 I/O)
Power Supply Current	ICC-1	-	440	570	mADC	All dots turned on
	ICC-2	-	220	285	mADC	All dots turned off
	ICC-3	-	30	40	mADC	Display power off
Power consumption		-	2.2	2.85	W	All dots turned on

**Optical characteristics**

Parameters	
Luminance	300 cd/m <sup>2</sup> Min. (600 cd/m <sup>2</sup> Typ.)
Color of illumination	Green (Bluish green)

**Physical Specification**

Parameters	
Number of Dots	16,384 (256x64)
Active area (XxY)	83.08mm x 20.68 mm (X x Y)
Size of Dot (XxY)	0.2mm x 0.2mm (X x Y)
Pitch of Dot (XxY)	0.325 mm x 0.325 mm(X x Y)
Weight	approximately 67 g

**Environmental Specification**

Parameters	
Operating Temperature	-40 ~ +85°C
Storage Temperature	-40 ~ +85°C
Operating Humidity	20 ~ 80% R.H. (non-condensing)
Storage Humidity	20 ~ 80% R.H. (non-condensing)
Vibration (non-operating)	10-55-10Hz, all amplitude 1mm, 30 minutes, X-Y-Z
Shock (non-operating)	392m/s <sup>2</sup> (40G) 9ms X-Y-Z, 3 times each direction

**Host Interface**  
Asynchronous Serial, SPI and I2C (Logic level is 3.3V for all)

**Pin Assignment**  
CN2: Asynchronous Serial

Pin No.	Signal	Pin No.	Signal
1	VCC	8	TXD
2	RXD	9	/TRDY
3	GND	10	GND
4	MBUSY	11	P00
5	IC	12	P01
6	/RESET	13	P02
7	HBUSY	14	P03

CN2 : SPI Interface

Pin No.	Signal	Pin No.	Signal
1	VCC	8	MISO
2	MOSI	9	/TRDY
3	GND	10	GND
4	MBUSY	11	P00
5	SCK	12	P01
6	/RESET	13	P02
7	/CS	14	P03

CN2 : I2C Interface

Pin No.	Signal	Pin No.	Signal
1	VCC	8	IC
2	SDA	9	/TRDY
3	GND	10	GND
4	MBUSY	11	P00
5	SCL	12	P01
6	/RESET	13	P02
7	IC	14	P03

**Character Fonts**

Parameters	
Font tables	5 x 7 Alpha-numeric, Kana, International
	8 x 16 Alpha-numeric, Kana, International
	16 x 16 CJK
Number of digits & lin	5x7 dot font: 36/42digits x 8 lines(Fixed width)
	16x16 dot font: 16digits x 4line

**Functions**  
Characters and Graphics display, Control command, Macro & P Macro, I/O port, Touch Switch with Calibration, etc.

