

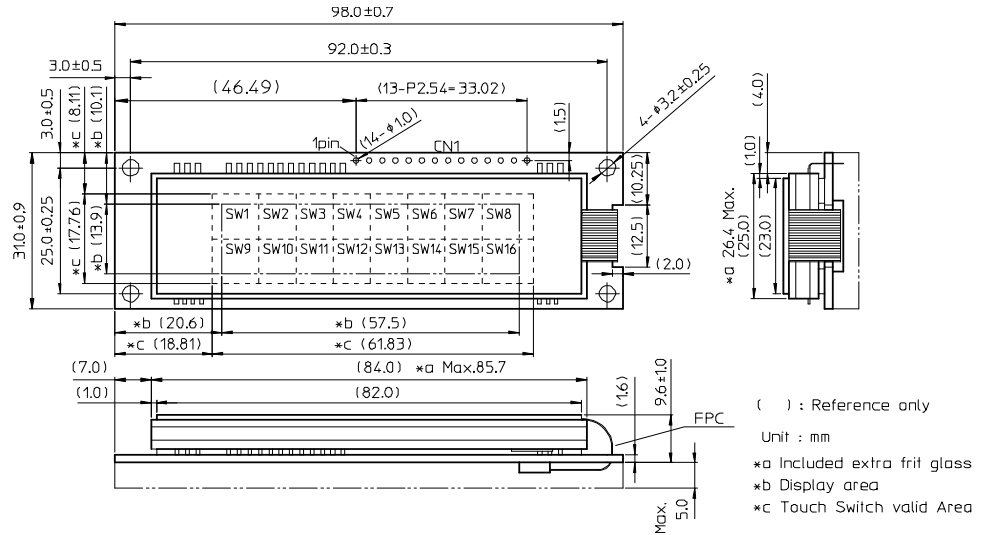
# GU128X32D-D903S

## SIMPLIFIED DATASHEET

### Features

VF Display Module equips 16 (8x2) Capacitive Touch Switches.

### Outline dimensions



**Get full specification**  
Click here to go to request form.

### Specifications

**Electrical Ratings** Note: Interface level is 3.3V C-MOS.

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	I <sub>IH-1</sub>	-	-	1.0	uADC	V <sub>IN</sub> =3.3V
SDA,SCL <sub>/</sub> RESET	I <sub>IL-1</sub>	-	-	-0.5	mADC	V <sub>IN</sub> =0V
I2C Logic Input Voltage	V <sub>IH-1</sub>	2.5	-	-	VDC	-
SDA,SCL <sub>/</sub> RESET	V <sub>IL-1</sub>	-	-	0.6	VDC	-
I2C Logic Output Voltage	V <sub>OL-1</sub>	-	-	0.5	VDC	I <sub>OL</sub> =0.5mA
I2C Logic Output Voltage	V <sub>OH-2</sub>	2.6	-	-	VDC	I <sub>OH</sub> =0.5mA
MBUSY <sub>/</sub> TRDY	V <sub>OL-2</sub>	-	-	0.5	VDC	I <sub>OL</sub> =0.5mA
Logic Input Current RxD	I <sub>IH-2</sub>	-	-	1.0	uADC	V <sub>IN</sub> =3.3V
MOSI,SCK <sub>/</sub> CS,HBUSY <sub>/</sub> RESET	I <sub>IL-2</sub>	-	-	-0.5	mADC	V <sub>IN</sub> =0V
Logic Input Voltage RxD	V <sub>IH-2</sub>	2.5	-	-	VDC	-
MOSI,SCK <sub>/</sub> CS,HBUSY <sub>/</sub> RESET	V <sub>IL-2</sub>	-	-	0.6	VDC	-
Logic Output Voltage	V <sub>OH-3</sub>	2.6	-	-	VDC	I <sub>OH</sub> =0.5mA
TXD,MISO,MBUSY <sub>/</sub> TRDY	V <sub>OL-3</sub>	-	-	0.5	VDC	I <sub>OL</sub> =0.5mA
Power Supply Current	ICC-1	-	230	300	mADC	All dots turned on
	ICC-2	-	140	180	mADC	All dots turned off
	ICC-3	-	7	9	mADC	Display power off
Power consumption		-	1.15	1.50	W	All dots turned on

**Optical characteristics**

Parameters	
Luminance	350 cd/m <sup>2</sup> Min. (700 cd/m <sup>2</sup> Typ.)
Color of illumination	Green (Bluish green)

**Physical Specification**

Parameters	
Number of Dots	4,096 (128 x 32)
Active area (XxY)	57.45 mm x 13.93 mm
Size of Dot (XxY)	0.30 mm x 0.29 mm
Pitch of Dot (XxY)	0.45 mm x 0.44 mm
Weight	approximately 38g

**Environmental Specification**

Parameters	
Operating Temperature	-40 ~ +85 degrees Celsius
Storage Temperature	-40 ~ +85 degrees Celsius
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

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

**Pin Assignment**  
CN1: 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

CN1 : 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

CN1 : 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: 18/21 digits x 4 lines
	16x16 dot font: 8digits x 1line

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

