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With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



## Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



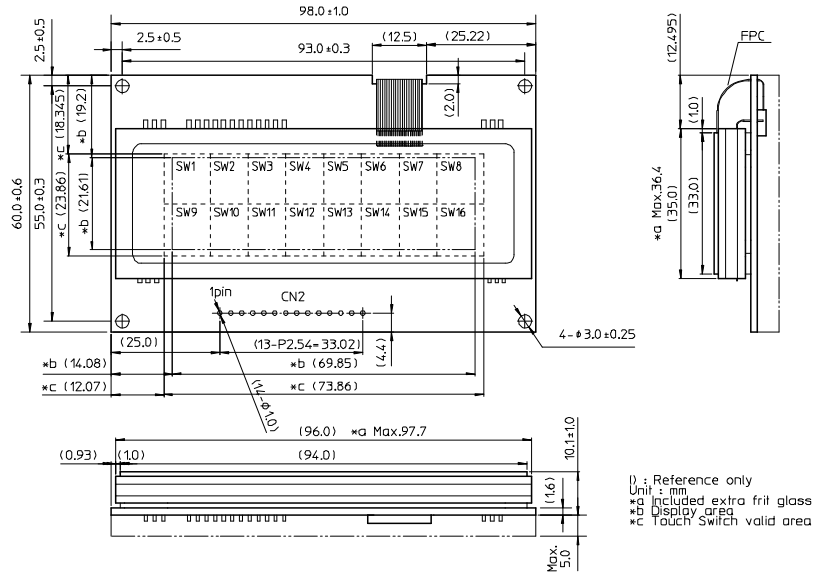
# GU140X32F-D903S

## SIMPLIFIED DATASHEET

### Features

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

### Outline dimensions



### Get full specification



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### Specification

#### Electrical Ratings

Note: Interface is 3.3V C-MOS level.

Parameter	Symbol	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 port.

Parameter	Symbol	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,/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,/RESET	V <sub>IL-1</sub>	-	-	0.6	VDC	-
I2C Logic Output Voltage S	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,/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,/CS,HBUSY,/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,/CS,HBUSY,/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,/TRDY	V <sub>OL-3</sub>	-	-	0.5	VDC	I <sub>OL</sub> =0.5mA
Power Supply Current	ICC-1	-	340	440	mADC	All dots turned on
	ICC-2	-	230	300	mADC	All dots turned off
	ICC-3	-	12	15	mADC	Display power off
Power consumption		-	1.7	2.2	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	4,480 (140 x 32)
Active area (XxY)	69.85 mm x 21.61 mm
Size of Dot (XxY)	0.35 mm x 0.53 mm
Pitch of Dot (XxY)	0.50 mm x 0.68 mm
Weight	approximately 68 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

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

#### Functions

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

