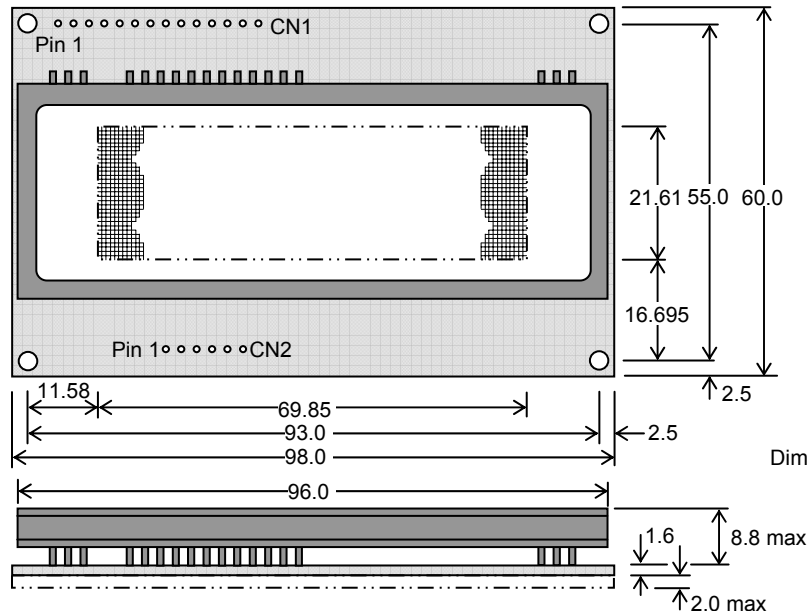


Dot Graphic VFD Module

GU140x32F-7900

- ❑ 140x32 Dot Graphic
- ❑ Single 5V Supply
- ❑ High Brightness Blue Green Display
- ❑ Operating Temp -40°C to +85°C
- ❑ 4 Asian + 2 sized ASCII Fonts
- ❑ High Speed 8 Bit Parallel Interface
- ❑ Asynchronous RS232 Serial Interface

The module includes the Vacuum Fluorescent Display glass, VF drivers and micro-controller ICs with refresh RAM, character generator and interface logic. The high speed 8 bit parallel interface is 5V TTL/CMOS compatible suitable for connection to a host CPU bus. The asynchronous serial interface accepts baud rates up to 115,200 with no parity. The module is ready to receive ASCII characters without initialization commands.



Dimensions in mm & subject to tolerances.
Mounting holes 3.0mm dia.

ELECTRICAL SPECIFICATION

Parameter	Symbol	Value	Condition
Power Supply Voltage	VCC	5.0VDC +/- 5%	GND=0V
Power Supply Current	ICC	400mADC typ.	VCC=5V
RS232 SIN High Input	VIH	3.0VDC min. 15VDC max.	VCC=5V
RS232 SIN Low Input	VIL	-15VDC min 0.5VDC max.	VCC=5V
SBUSY High Output	VOH	4.0VDC min. Vcc max.	VCC=5V
SBUSY Low Output	VOL	0VDC min 0.5VDC max.	VCC=5V
Logic High Input	VIH	0.8VDC min. Vcc max.	VCC=5V
Logic Low Input	VIL	0VDC min 0.2VDC max.	VCC=5V
Logic High Output	VOH	3.8VDC min. Vcc max.	IOH=-1.5mA
Logic Low Output	VOL	0VDC min 0.6VDC max.	IOL =1.6mA

The power on rise time should be less than 100ms. Inrush current at power on can be 2 x ICC.

OPTICAL and ENVIRONMENTAL SPECIFICATIONS

Parameter	Value
Display Area (XxY mm)	69.85 x 21.61
Dot Size/Pitch (XxY mm)	0.35 x 0.53 / 0.5 x 0.68
Luminance	700 cd/m ² Typ.
Colour of Illumination	Blue-Green (Filter for colours)
Operating Temperature	-40°C to +85°C
Storage Temperature	-40°C to +85°C
Operating Humidity (non condensing)	20 to 80% RH @ 25°C

COMMON FONT

	00	10	20	30	40	50	60	70
00								
01								
02								
03								
04								
05								
06								
07								
08								
09								
0A								
0B								
0C								
0D								
0E								
0F								

INTERNATIONAL FONTS (n=0)

	80	90	A0	B0	C0	D0	E0	F0
00								
01								
02								
03								
04								
05								
06								
07								
08								
09								
0A								
0B								
0C								
0D								
0E								
0F								

(n=19)

SOFTWARE COMMANDS – Popular codes, more included

Command	Code
Write Character to Display	20H FFH
BS, HT, LF, CR, Display Clear	08H, 09H, 0AH, 0DH, 0CH
Initialize Display	1BH 40H
Specify International Font	1BH 52H n
Vertical Scroll Mode	1FH 02H
Horizontal Scroll Mode	1FH 03H
Cursor Set	1FH 24H xL xH yL yH
Scroll Display Action	1FH 28H 61H 10H wL wH cL cH s
Display Blank	1FH 28H 61H 11H p t1 t2 c
Screen Saver	1FH 28H 61H 40H p
Bit Image Display Group	1FH 28H 66H 11H xL xH
Specify/Cancel 2byte Character	1FH 28H 67H 02H m
Select 2byte Character Type	1FH 28H 67H 0FH m
Font Magnified Display	1FH 28H 67H 40H x y
Brightness Level Setting	1FH 58H n

The module defaults to 5x7 font, cursor top left at power on.

PARALLEL INTERFACE - CN1

Pin	Sig	Pin	Sig
1	GND	8	D1
2	VCC	9	D2
3	NC*	10	D3
4	RS	11	D4
5	/WR	12	D5
6	/RD	13	D6
7	D0	14	D7 (PBUSY)

*Pin 3 can be changed to /RESET or PBUSY terminal by selection of Jumper JRB. RS is not used.
Full specification available on request.

ASYN SERIAL INTERFACE - CN3

Pin	Signal	Description
1	VCC (5V)	Power Supply I/P
2	SIN	RS232 Data Input
3	GND	GND
4	SBUSY	Busy Output
5	NC	-
6	/RESET	Reset Input

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