

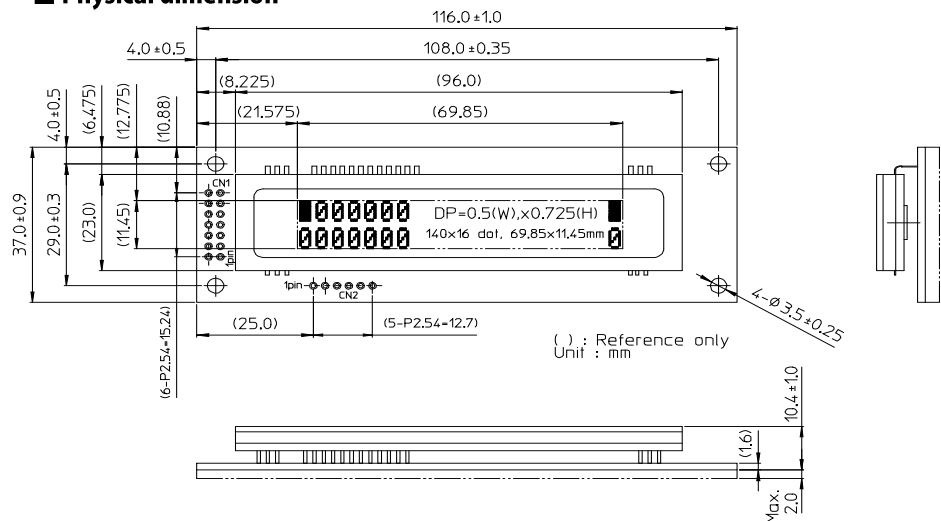
# GU140X16G-7000

## SIMPLIFIED DATASHEET

### ■ Features

VFD module with same size and shape as LCD module. LED backlight models are also available, for additional display effect.

### ■ Physical dimension



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## Specifications

### ■ Electrical Ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Power supply voltage	VCC	4.75	5.00	5.25	VDC	-

### ■ Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
'L' Logic Input Current D0-D7 /WR/ RD /RESET	IIL1 IIL2	-	-	-0.15 -0.6	mA	VIN=0V
'H' Logic Input Current D0-D7 /WR/ RD /RESET	IiH	-	-	1.0	μADC	VIN=5V
Logic Input Voltage D0-D7 /WR/ RD /RESET	VIH VIL	0.8VCC 0	-	VCC 0.2VCC	VDC	-
Logic Output Voltage D7 (Busy flag), PBUSY	VOH VOL	3.8 0	-	VCC 0.6	VDC	IOH=-1.5mA IOL=1.6mA
Logic input resistance SIN	RIN	3	-	-	KΩ	-
Logic Input Voltage SIN	VIH VIL	3.0 -15	-	+15 0.5	VDC	-
Logic Output Voltage SBUSY	VOH VOL	4.0 0	-	VCC 0.5	VDC	RL=3KΩ RL=3KΩ
Power Supply Current 1	ICC-1	-	290	380	mADC	All dots ON
Power Supply Current 2	ICC-2	-	250	330	mADC	All dots OFF
Power Supply Current 3	ICC-3	-	35	45	mADC	Display power OFF
Power Consumption	-	-	1.45	1.9	W	All dots ON

### ■ Optical Specifications

Parameter	Value
Number of Dots	2,240 (140×16)
Character numbers	20 x 2 / Max23 x 2 by 5 x 7 dot ANK
Display Area	69.85 mm x 11.45 mm
Dot Size (X x Y)	0.35 mm x 0.575 mm
Dot Pitch (X x Y)	0.50 mm x 0.725 mm
Luminance	350 cd/m <sup>2</sup> Min. (700 cd/m <sup>2</sup> Typ.)
Color of illumination	Green (Blue-Green)

### ■ Environmental Specifications

Parameter	Value
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

### ■ Character display

Parameter	Value
Number of Dots	140 x 16 dots
Character font type	5 x 7 ANK, International font
Character width	Fixed/Proportional character format 1&2
Attribution	Character magnify, Reverse
Weight	About 40 g

### ■ Interface

Parallel (CMOS), Asynchronous Serial (RS232)

### ■ Pin Assignment (Parallel)

Pin No.	Signal	Pin No.	Signal
1	GND	2	Vcc
3	NC	4	RS
5	/WR	6	/RD
7	D0	8	D1
9	D2	10	D3
11	D4	12	D5
13	D6	14	D7 (PBUSY)

(Asynchronous Serial)

Pin No.	Signal	Baud Rate Setting
1	Vcc	9600bps
2	SIN	19200bps
3	GND	38400bps*
4	SBUSY	115200bps
5	NC	(*:Default setting)
6	/RESET	

### ■ Functions

Parameter	Value
Control command	
Scroll display action	
Proportional Font function	
User-Windows function	
AND/OR/XOR Mixture display	
Reverse display	
Bit image display	
Character download function	
etc.	