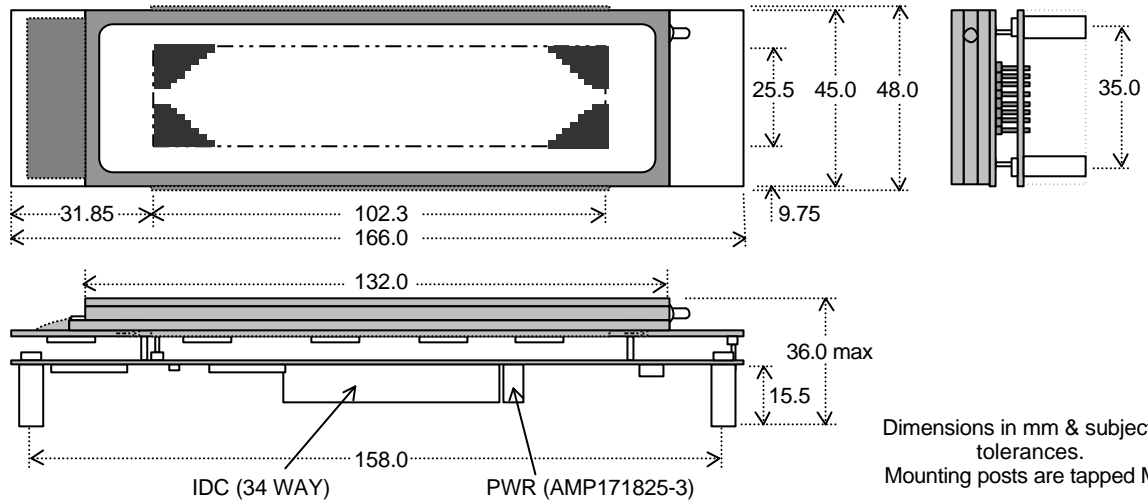


Dot Graphic VFD Module

GU256X64-312

- ❑ 256 x 64 Dot Graphic
- ❑ Operating Temp -0°C to +50°C
- ❑ Single 5V Supply.
- ❑ High Brightness Blue Green Display
- ❑ 8 bit High Speed Parallel Interface
- ❑ ASCII + Extended Character Font
- ❑ Twin Graphic/Character RAM
- ❑ 4 Level Brightness Control Function

The module includes the Vacuum Fluorescent Display glass, driver and control ASIC, with refresh RAM, character generator and interface logic. The high speed 8 bit parallel interface is 5V CMOS compatible suitable for connection to a host CPU bus. Brightness control and power down functions are provided. A full data sheet is available.



ELECTRICAL SPECIFICATION

Parameter	Symbol	Value	Condition
Power Supply Voltage	V _{CC}	5.0VDC +/- 5%	GND=0V
Power Supply Current	I _{CC}	900mADC typ.	V _{CC} =5V
Logic High Input	V _{IH}	2.2VDC min.	V _{CC} =5V
Logic Low Input	V _{IL}	0.8VDC max.	V _{CC} =5V
Logic High Output	V _{OH}	4.2VDC min.	I _{OH} = -40uA
Logic Low Output	V _{OL}	0.5VDC max.	I _{OL} = 1.6mA

The power on rise time should be less than 100ms. The inrush current at power on can be 2 x I_{CC}.

OPTICAL and ENVIRONMENTAL SPECIFICATIONS

Parameter	Value
Display Area (XxY mm)	102.3 x 25.5
Dot Size/Pitch (XxY mm)	0.3 x 0.3/0.4
Luminance	515 cd/m ² (150fL) Typ.
Colour of Illumination	Blue-Green (Filter for colours)
Operating Temperature	0°C to +50°C
Storage Temperature	-20°C to +70°C
Operating Humidity (non condensing)	20 to 80% RH @ 25°C

SOFTWARE COMMANDS

Instruction	D0-D4
Screen On/Off Control	00H-03H
Auto Increment Cursor	04H-05H
Character/Graphic Screen 2	06H-07H
Data Write/Data Read	08H-09H
Set Screen 1/ 2 RAM Address	0AH-0DH
Set Cursor Address	0EH-0FH
Screen1/2 Merge Control	10H-12H
Screen Luminance Control	18H-1BH

INTERFACING

Function	/CS	/WR	/RD	C//D	/BL
Command Write	0	0-1	1	1	-
Data Setting	0	0-1	1	0	-
Display Data Read	0	1	0	0	-
Display Blanking	-	-	-	-	0

As no BUSY signal is available between the processor and module, accessing time between data is required to be greater than 2µs.

IDC DATA CONNECTOR

Pin	Sig	Pin	Sig
1	D7	2	GND
3	D6	4	GND
5	D5	6	GND
7	D4	8	GND
9	D3	10	GND
11	D2	12	GND
13	D1	14	GND
15	D0	16	GND
17	/WR	18	GND
19	C//D	20	GND
21	/RD	22	GND
23	/CS	24	GND
25	NC	26	GND
27	FRP	28	GND
29	/BL	30	GND
31	V _{CC}	32	GND
33	V _{CC}	34	GND

CHARACTER FONT

Hex	00	10	20	30	40	50	60	70	80	90	A0	B0	C0	D0	E0	F0
00				0	1	2	3	4	5	6	7	8	9	A	B	C
01	!	@	#	\$	%	&	'	()	*	+	,	-	=	>	?/
02	"	#	\$	%	&	'	()	*	+	,	-	=	>	?/	
03	#	\$	%	&	'	()	*	+	,	-	=	>	?/		
04	\$	%	&	'	()	*	+	,	-	=	>	?/			
05	%	&	'	()	*	+	,	-	=	>	?/				
06	&	'	()	*	+	,	-	=	>	?/					
07	'	()	*	+	,	-	=	>	?/						
08	()	*	+	,	-	=	>	?/							
09)	*	+	,	-	=	>	?/								
0A	*	+	,	-	=	>	?/									
0B	+	,	-	=	>	?/										
0C	,	-	=	>	?/											
0D	-	=	>	?/												
0E	=	>	?/													
0F	>	?/														

POWER CONNECTOR

Pin	Sig
1	V _{CC} (5V)
2	NC
3	GND

TIMING PARAMETERS (min)

Write Pulse Width	100ns
Hold after Write	20ns
FRP Cycle Time	10.4ms
FRP Pulse Width	81µs

SCREEN COMBINATIONS

The display memory (RAM) has the capacity of producing two display screens for graphic, plus graphic and ASCII characters. This enables up 4 different display combinations, via software commands.

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