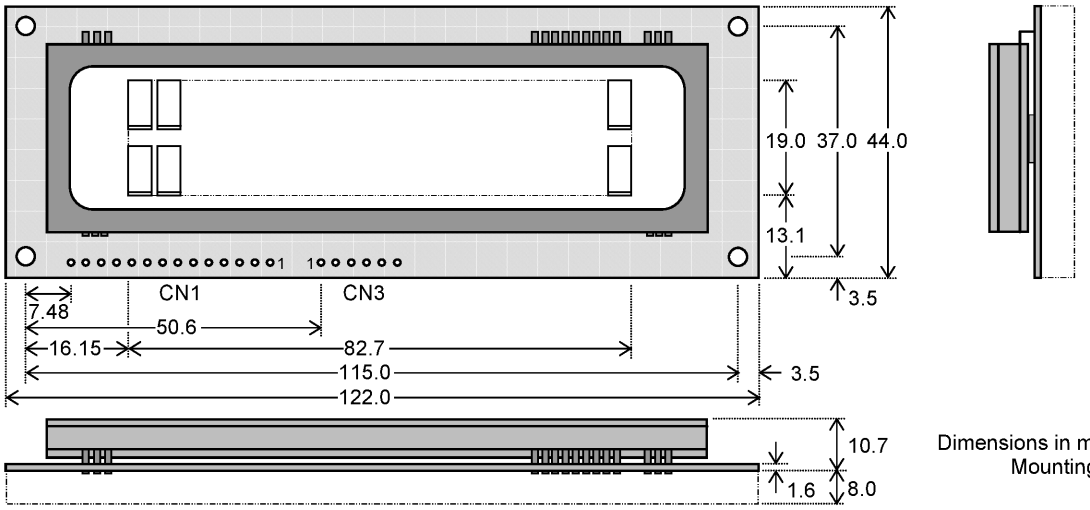
5X7 Dot Character VFD Module — CU16029-UW1J

- 2 X 16 Characters 8mm High + Cursor
- LCD Compatible Design
- Operating Temp -40°C to +85°C
- Single 5V Supply with Power Save Mode
- High Brightness Blue Green Display
- Selectable 4/8 bit M68/i80 Parallel & Serial Interface
- ASCII + Extended Character Font
- 8 User Definable Character RAM
- 4 Level Brightness Control Function

The module includes the Vacuum Fluorescent Display glass, driver and micro-controller ICs 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 which can be set to M68 or i80 series interface by a solder link on the module. Brightness control and power down functions are provided. A full data sheet is available.



Dimensions in mm & subject to tolerances.
Mounting holes 3.5mm dia.

ELECTRICAL SPECIFICATION

Parameter	Symbol	Value	Condition
Power Supply Voltage	Vcc	5.0VDC +/- 5%	GND=0V
Power Supply Current	Icc	350mADC typ.	Vcc=5V
Logic High Input	VIH	2.0VDC min.	Vcc=5V
Logic Low Input	VIL	0.8VDC max.	Vcc=5V
Logic High Output	VOH	Vcc-0.8VDC min.	IOH = -4.0mA
Logic Low Output	VOL	0.6VDC max.	IOH =4.0mA

The power on rise time should be less than 50ms.The inrush current at power on can be 2 x Icc.
The Icc current is 10mA maximum while in power down mode.

OPTICAL and ENVIRONMENTAL SPECIFICATIONS

Parameter	Value
Character Size/Pitch (XxY mm)	3.85 x 8.002/5.26 x 9.81
Dot Size/Pitch (XxY mm)	0.53 x 0.89/0.83 x 1.19
Luminance	350 cd/m^2 (100 fL) min.
Colour of Illumination	Blue-Green (Filter for more colours)
Operating Temperature	-40°C to +85°C
Storage Temperature	-50°C to +85°C
Operating Humidity (non condensing)	20 to 80% RH @ 25°C

SOFTWARE COMMANDS

Instruction	R/W	RS	D0-D7
Clear Display	L	L	01H
Cursor Return Home	L	L	02H-03H
Entry Mode Set	L	L	04H-07H
Display ON/OFF	L	L	08H-0FH
Cursor/Display Shift	L	L	10H-1FH
Function Set	L	L	20H-3FH
Brightness Set	L	H	00H-03H
Set CG RAM Addr.	L	L	40H-7FH
Set DD RAM Addr.	L	L	80H-E7H
Read BUSY/Addr.	H	L	00H-FFH
Write Data to RAM	L	H	00H-FFH
Read Data from RAM	H	H	00H-FFH

TIMING PARAMETERS (min)

(E)nable Cycle Time	500ns
(E)nable Pulse Width	230ns
Hold after (E)nable	10ns

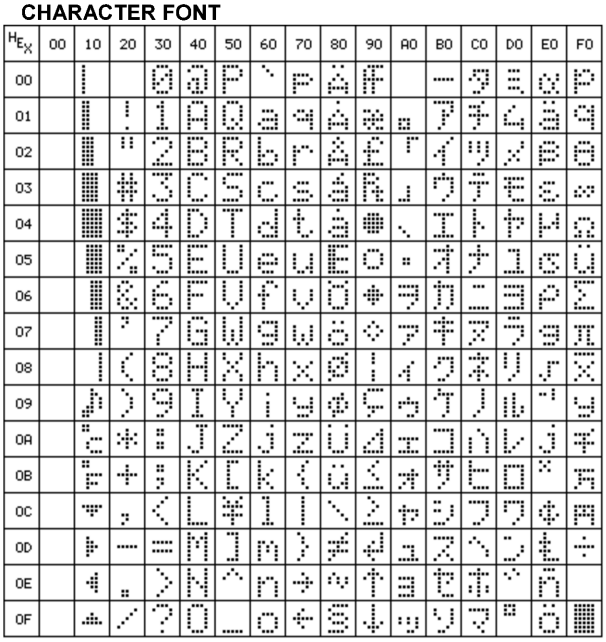
PIN CONNECTIONS (CN1)

Pin	Sig	Pin	Sig
1	GND	2	Vcc
3	(FNC)	4	RS
5	R/W #	6	E #
7	DB0	8	DB1
9	DB2	10	DB3
11	DB4	12	DB5
13	DB6	14	DB7

Serial Interface Con. (CN3)

Pin	Signal
1	Vcc
2	SI/SO
3	GND
4	STB
5	SCK
6	(FNC)

CHARACTER FONT



JUMPER LINKS

 # Interface M68/i80
When jumper link JP2 is soldered, these inputs change to i80 series CPU control lines.
Pin 5= /WR Pin 6 = /RD

Pin 3 & 6 (Fnc) Input
This is normally open circuit. If pads JP1.1 and JP1.2 are linked. Pin 3 of CN1 & Pin 6 of CN3 = /Reset.

Font Selection
IfJP6 is open, Katakana font is selected. If JP6 is linked, International is selected.

Interface Selection
If JP5 is open parallel interface is selected. If JP5 is linked, serial interface is selected.

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