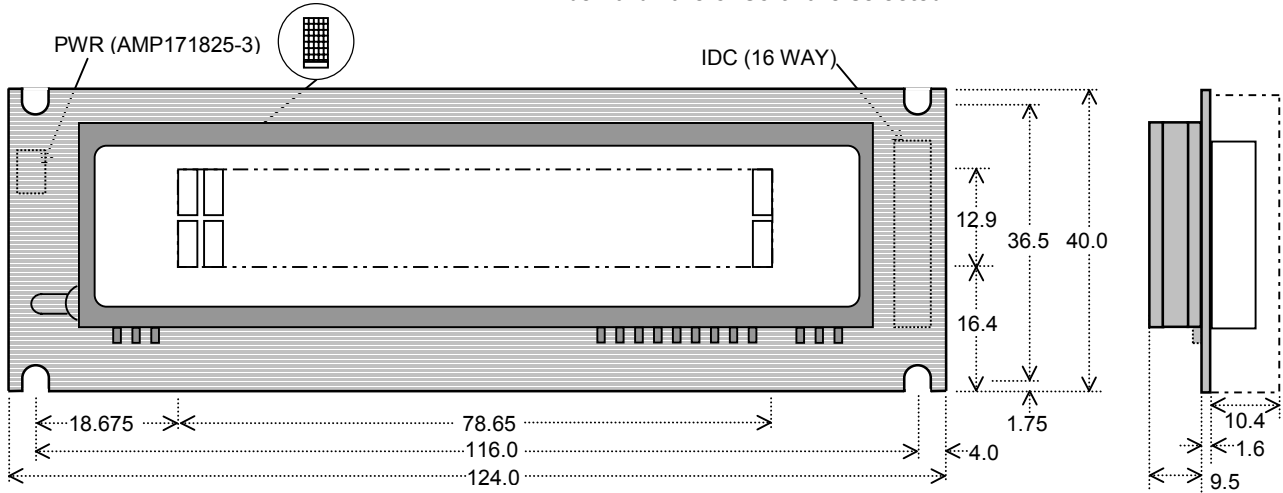


# 5X7 Dot Character VFD Module

# CU20025-TW200A

- ❑ 2 Lines of 20 Characters 5mm High
- ❑ High Speed Parallel/Serial Interface
- ❑ Wide Operating Temp -40°C to +85°C
- ❑ Single 5V Supply
- ❑ High Brightness Blue Green Display
- ❑ ASCII, Katakana & Extended Character Font
- ❑ 16 User Definable Characters

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. The asynchronous serial interface accepts baud rates up to 19,200 with or without parity (Default – 19200 BPS, Even Parity, International Font). Two character font tables can be hardware or software selected.



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

## ELECTRICAL SPECIFICATION

Parameter	Symbol	Value	Condition
Power Supply Voltage	Vcc	5.0VDC +/- 5%	GND=0V
Power Supply Current	Icc	280mADC	Vcc=5V
Logic High Input	V <sub>IH</sub>	0.8 x Vcc min.	Vcc=5V
Logic Low Input	V <sub>IL</sub>	0.3 x Vcc max.	Vcc=5V
Logic High Output	V <sub>OH</sub>	Vcc-1.5VDC min.	I <sub>OH</sub> = -5.0mA
Logic Low Output	V <sub>OL</sub>	1.5VDC max.	I <sub>OH</sub> = 5.0mA

The power on rise time should be less than 100ms. 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)	2.65 x 5.7/4.0 x 7.2
Dot Size/Pitch (XxY mm)	0.45 x 0.5/0.55 x 0.7
Luminance	350 cd/m <sup>2</sup> (102 fL) min.
Colour of Illumination	Blue-Green (Filter for more 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

## SOFTWARE COMMANDS

Instruction	D0-D7	Instruction	D0-D7
Back Space	08H	Cursor is invisible	16H
Horizontal Tab	09H	Cursor is blinking underline	17H
Line Feed	0AH	International Font	18H
Form Feed	0CH	Katakana Font	19H
Carriage Return	0DH	Euro Currency Mark	1AH
Clear Display	0EH	Escape	1BH
Cancel	0FH	>> Send User Font	+43H
Character Overwrite Mode	11H	>> Position cursor	+48H
Scroll Up Mode	12H	>> Software Reset	+49H
Horizontal Scroll Mode	13H	>> Luminance	+4CH
Cursor on underline	14H	>> Flickerless Write	+53H
Cursor is blinking character	15H	>> Cursor Blink Speed	+54H

## TIMING PARAMETERS (min)

Data Set Up To Write	100ns	Subject to change without notice. Detailed specification on request. IUK Doc Ref:03849 Iss.1 2 Apr 02
Write Pulse Width	160ns	
Hold After Write	10ns	

## CHARACTER FONTS

	International Font										Additional Katakana														
	00	10	20	30	40	50	60	70	80	90	A0	B0	C0	D0	E0	F0	80	90	A0	B0	C0	D0	E0	F0	
00																									
01																									
02																									
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09																									
0A																									
0B																									
0C																									
0D																									
0E																									
0F																									

## PCB JUMPERS (O)PEN (L)INK

Baud	J2	J1	J0
19200	O	O	O
9600	O	O	L
4800	O	L	O
2400	O	L	L
1200	L	O	O
<b>Parity</b>	<b>J4</b>	<b>J3</b>	
EVEN	O	O	
ODD	O	L	
NONE	L	L/O	
<b>Font</b>	<b>JA</b>		
International		L	
Katakana		O	

## IDC DATA CONNECTOR

Pin	Sig	Pin	Sig
1	D7	9	/WR
2	D6	10	/CS
3	D5	11	SIN/TEST
4	D4	12	BUSY
5	D3	13	GND (0V)
6	D2	14	GND (0V)
7	D1	15	Vcc (5V)
8	D0	16	Vcc (5V)

## CONTACT

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## 3 PIN POWER CONNECTOR

Pin	Sig
1	Vcc (5V)
2	SIN/TEST
3	GND (0V)

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