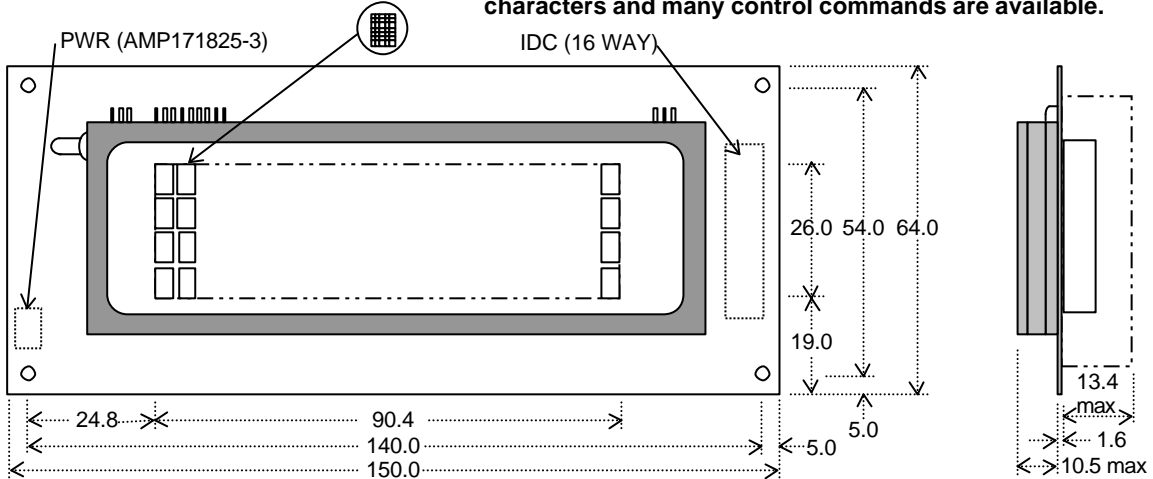


5X7 Dot Character VFD Module

CU20045SCPB-T31A

- ❑ 4 Lines of 20 Characters 5mm High
- ❑ High Speed Parallel/Serial Interface
- ❑ Operating Temp -10°C to +65°C
- ❑ Single 5V Supply
- ❑ High Brightness Blue Green Display
- ❑ ASCII, Katakana & Extended Character Font
- ❑ 2 User Definable Character RAM

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. Two character font tables can be hardware or software selected. User defined characters and many control commands are available.



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

ELECTRICAL SPECIFICATION

Parameter	Symbol	Value	Condition
Power Supply Voltage	V _{cc}	5.0VDC +/- 5%	GND=0V
Power Supply Current	I _{cc}	310mADC typ.	V _{cc} =5V
Logic High Input	V _{IH}	0.8 V _{cc} min	V _{cc} =5V
Logic Low Input	V _{IL}	0.3 V _{cc} max	V _{cc} =5V
Logic High Output	V _{OH}	V _{cc} -1.5 min.	I _{OH} = -5.0mA
Logic Low Output	V _{OL}	1.5VDC max.	I _{OL} =5.0mA

The power on rise time should be less than 50ms. The inrush current at power on can be 2 x I_{cc}.

OPTICAL and ENVIRONMENTAL SPECIFICATIONS

Parameter	Value
Character Size/Pitch (XxY mm)	3.0 x 5.0/4.6 x 7.0
Dot Size/Pitch (XxY mm)	0.4 x 0.5/0.65 x 0.75
Luminance	700 cd/m ² (204fL) Typ.
Colour of Illumination	Blue-Green (Filter for colours)
Operating Temperature	-10°C to +65°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	International Font	18H
Horizontal Tab	09H	Katakana Font	19H
Line Feed	0AH	Euro Currency Mark	1AH
Form Feed	0CH	Escape	1BH
Carriage Return	0DH	>> Send User Font	+43H
Clear Display	0EH	>> Position cursor	+48H
Clear Line	0FH	>> Software Reset	+49H
Increment Write Mode	11H	>> Luminance	+4CH
Vertical Scroll Mode	12H	>> Flickerless Write	+53H
Horizontal Scroll mode	13H	>> Cursor Blink Speed	+54H
5x7 Block Cursor On	15H	Character Data	20H-FFH
Cursor Off	14,16,17H		

TIMING PARAMETERS (min)

Data Set Up To Write	100ns	Subject to change without notice. Detailed specification on request. IUK Doc Ref:3521 Iss:1 13Aug01
Write Pulse Width	160ns	
Hold After Write	10ns	

CHARACTER FONTS

	International Font										Additional Katakana Font														
	00	10	20	30	40	50	60	70	80	90	RO	BO	CO	DO	EO	FO	80	90	RO	BO	CO	DO	EO	FO	
00																									
01																									
02																									
03																									
04																									
05																									
06																									
07																									
08																									
09																									
0A																									
0B																									
0C																									
0D																									
0E																									
0F																									

IDC DATA CONNECTOR

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

3 PIN POWER CONNECTOR

Pin	Sig
1	V _{cc} (5V)
2	SIN/TEST
3	GND (0V)

Mates with AMP171822-3

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
Parity	J4	J3	
EVEN	O	L	
ODD	O	L	
NONE	L	L/O	
Font	JA		
International	1		
JIS	0		

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