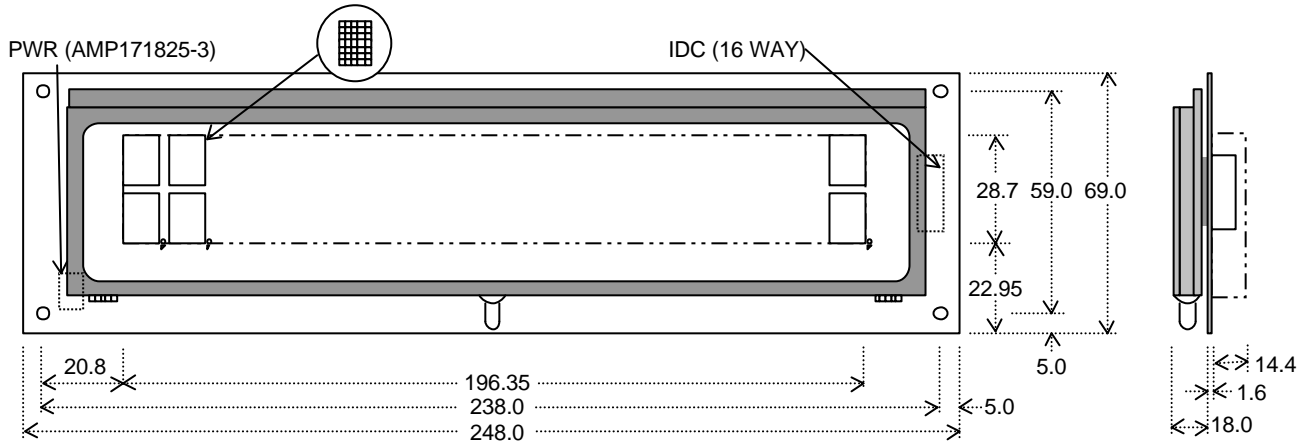# 5X7 Dot Character VFD Module   CU200211SCPB-T60A

- ❑ **2 Lines of 20 Characters 11mm 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**
- ❑ **4 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.

PWR (AMP171825-3)   IDC (16 WAY)

28.7   59.0   69.0
22.95
5.0
14.4
1.6
18.0

20.8   196.35   238.0   248.0   5.0

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%	G_{ND}=0V
Power Supply Current	I_{CC}	1100mADC typ.	Vcc=5V
Logic High Input	V_{IH}	2.0VDC min.	Vcc=5V
Logic Low Input	V_{IL}	0.8VDC max.	Vcc=5V
Logic High Output	V_{OH}	2.4VDC min.	I_{OH} = -2.0mA
Logic Low Output	V_{OL}	0.5VDC max.	I_{OL} =2.0mA

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)	6.4 x 11.2/9.9 x 16.0
Dot Size/Pitch (XxY mm)	1.0 x 1.3/1.35 x 1.65
Luminance	700 cd/m² (204 fL) 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

CHARACTER FONTS

International Font   Additional Katakana Font

SOFTWARE COMMANDS

Instruction	D0-D7	Instruction	D0-D7
Back Space	08H	Escape	1BH
Horizontal Tab	09H	➢ Send User Font	+43H
Line Feed	0AH	➢ Position cursor	+48H
Form Feed	0CH	➢ Software Reset	+49H
Carriage Return	0DH	➢ Luminance	+4CH
Clear Display	0EH	➢ Flickerless Write	+53H
Increment Write Mode	11H	➢ Cursor Blink Speed	+54H
Vertical Scroll Mode	12H	Character Data	20H+
5x7 Block Cursor On	15H	User Character Data	00H+
Cursor Off	16H	Post Decimal Point	1C
International Font	18H	Post Comma	1D
Katakana Font	19H	Post Semi Colon	1E

TIMING PARAMETERS (min)

Data Set Up To Write	100ns	Subject to change without notice.
Write Pulse Width	160ns	Detailed specification on request.
Hold After Write	10ns	IUK Doc Ref:0824 Iss:5 3OCT00

IDC DATA CONNECTOR

Pin	Sig	Pin	Sig
1	D7	9	$\overline{WR}$
2	D6	10	$\overline{CS}$
3	D5	11	S_{IN}/T_{EST}
4	D4	12	BUSY
5	D3	13	G_{ND} (0V)
6	D2	14	G_{ND} (0V)
7	D1	15	V_{CC} (5V)
8	D0	16	V_{CC} (5V)

3 PIN POWER CONNECTOR

Pin	Sig
1	V_{CC} (5V)
2	S_{IN}/T_{EST}
3	G_{ND} (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		O
ODD	O		L
NONE	L		L / O

NORITAKE ITRON VFD MODULES   2x20, 11mm Dot Character