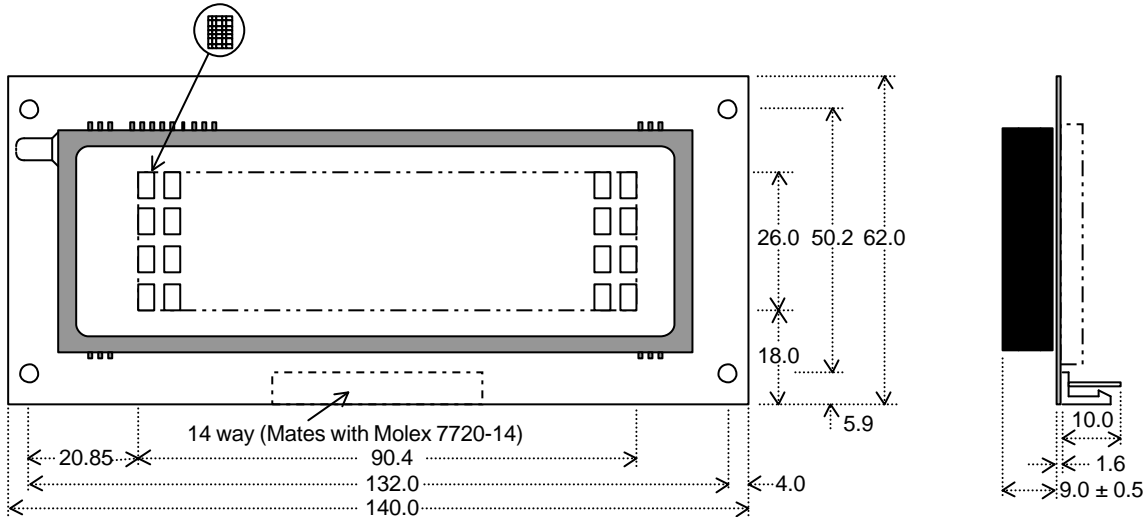


# 5X7 Dot Character VFD Module

# CU20045SCPБ-KT70A

- ❑ 4 Lines of 20 Characters 5mm High
- ❑ High Speed Parallel/Serial Interface
- ❑ Operating Temp -30°C to +70°C
- ❑ Single 5V Supply
- ❑ High Brightness Blue Green Display
- ❑ ASCII & Extended Character Font

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. 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 <sub>CC</sub>	5.0VDC +/- 5%	GND=0V
Power Supply Current	I <sub>CC</sub>	350mADC typ.	V <sub>CC</sub> =5V
Logic High Input	V <sub>IH</sub>	2.0VDC min.	V <sub>CC</sub> =5V
Logic Low Input	V <sub>IL</sub>	0.8VDC max.	V <sub>CC</sub> =5V
Logic High Output	V <sub>OH</sub>	2.4VDC min.	I <sub>OH</sub> = -2.0mA
Logic Low Output	V <sub>OL</sub>	0.5VDC max.	I <sub>OL</sub> = 2.0mA

The power on rise time should be less than 50ms. The inrush current at power on can be 2 x I<sub>CC</sub>.

### 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 <sup>2</sup> (204 fL) Typ.
Colour of Illumination	Blue-Green (Filter for colours)
Operating Temperature	-30°C to +70°C
Storage Temperature	-40°C to +85°C
Operating Humidity (non condensing)	20 to 80% RH @ 25°C

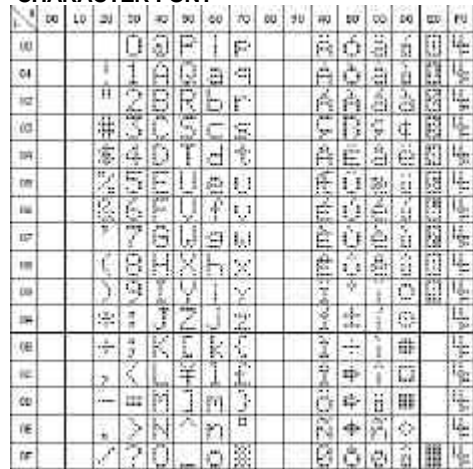
### SOFTWARE COMMANDS

Instruction	D0-D7	Instruction	D0-D7
Back Space	08H	Reset	14H
Horizontal Tab	09H	Display Clear	15H
Line Feed	0AH	Cursor Home	16H
Carriage Return	0DH	External Font Load	18H
Block Cursor Invisible	0EH	Bit 7 High for next byte	19H
Block Cursor Visible	0FH	Internal Font	20H - EFH
Increment Write Mode	11H	External User Font	FOH - FFH
Overwrite Mode	12H		
Horizontal Scroll Mode	13H		

### TIMING PARAMETERS (min)

Data Set Up To Write	0nS	Subject to change without notice. Detailed specification on request. IUK Doc Ref:3687 Iss:1 26NOV01
Write Pulse Width	250nS	
Hold After Write	10nS	
Busy Transition	50nS	

### CHARACTER FONT



### IDC DATA CONNECTOR

Pin	Signal	Pin	Signal
1	BUSY	8	D2
2	Write Strobe	9	D1
3	D7	10	D0
4	D6	11	V <sub>CC</sub> (5V)
5	D5	12	GND(0V)
6	D4	13	NC
7	D3	14	/RESET

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