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Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



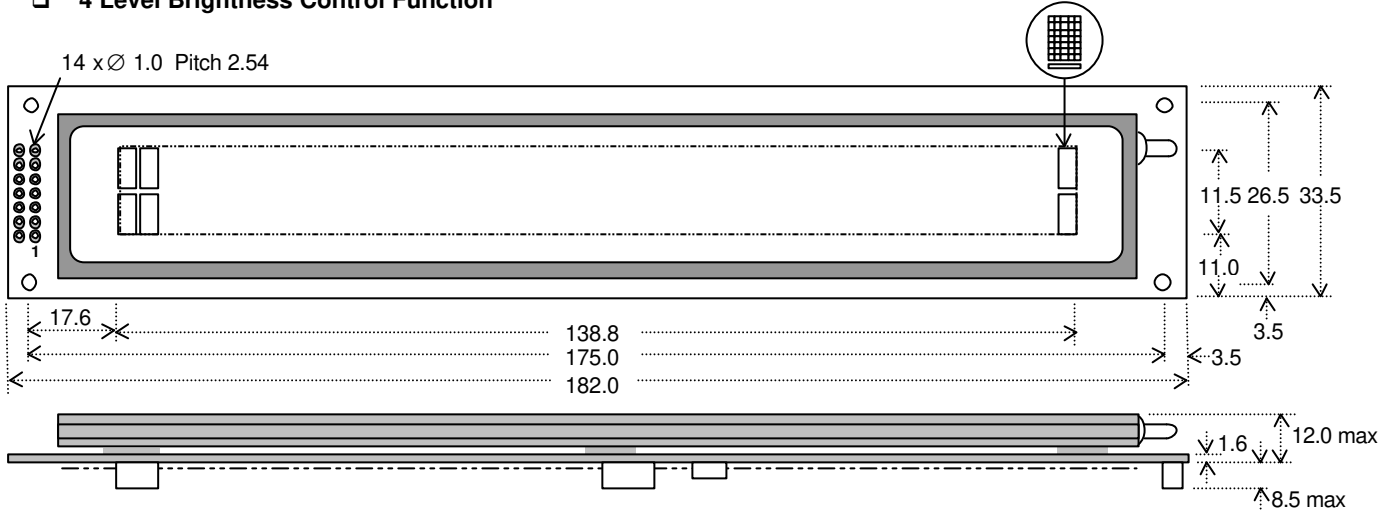
5X7 Dot Character VFD Module

CU40025SCPB-W6J

- ❑ 2 X 40 Characters 5mm High
- ❑ LCD Compatible Design
- ❑ Wide 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 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 save functions are provided. Please call for a full data sheet.



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}	330mADC typ.	V _{CC} =5V
Logic High Input (DB0-DB7)	V _{IH1}	V _{SS} +2.2VDC min.	V _{CC} =5V
Logic Low Input (DB0-DB7)	V _{IL1}	V _{SS} +0.6VDC max	V _{CC} =5V
Logic High Input (RS,R/W,E)	V _{IH2}	0.7 V _{CC} min.	V _{CC} =5V
Logic Low Input (RS,R/W,E)	V _{IL2}	0.3 V _{CC} max.	V _{CC} =5V
Logic High Output	V _{OH}	V _{CC} -0.5VDC min.	I _{OH} = -1.6mA
Logic Low Output	V _{OL}	V _{SS} +0.4VDC max	I _{OL} = 1.6mA

The power on rise time should be less than 50ms. The inrush current at power on can be 2 x I_{CC}. The I_{CC} current is 10mA maximum while in power save mode.

OPTICAL and ENVIRONMENTAL SPECIFICATIONS

Parameter	Value
Character Size/Pitch (XxY mm)	2.3 x 4.7/3.5 x 6.1
Dot Size/Pitch (XxY mm)	0.38 x 0.5/0.48 x 0.7
Luminance	700 cd/m ² (204 fL) Typ.
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

PIN CONNECTIONS

Pin	Sig	Pin	Sig
1	GND	2	V _{CC}
3	(FNC)	4	RS
5	R/W #	6	E #
7	D0	8	D1
9	D2	10	D3
11	D4	12	D5
13	D6	14	D7

TIMING PARAMETERS (min)

(E)nable Cycle Time	666ns
(E)nable Pulse Width	300ns
Hold after (E)nable	10ns

CHARACTER FONT

H _{EX}	00	10	20	30	40	50	60	70	80	90	A0	B0	C0	D0	E0	F0
00	|	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E
01	|	!	"	#	\$	%	&	'	(	)	*	+	,	-	.	:
02	|	"	2	B	R	b	r	Δ	ε	ρ	ι	υ	χ	φ	θ	ω
03	|	#	3	C	S	c	s	Δ	ε	ρ	ι	υ	χ	φ	θ	ω
04	|	\$	4	D	T	d	t	Δ	ε	ρ	ι	υ	χ	φ	θ	ω
05	|	%	5	E	U	e	u	Δ	ε	ρ	ι	υ	χ	φ	θ	ω
06	|	&	6	F	V	f	v	Δ	ε	ρ	ι	υ	χ	φ	θ	ω
07	|	'	7	G	W	g	w	Δ	ε	ρ	ι	υ	χ	φ	θ	ω
08	|	(	8	H	X	h	x	Δ	ε	ρ	ι	υ	χ	φ	θ	ω
09	|	)	9	I	Y	i	y	Δ	ε	ρ	ι	υ	χ	φ	θ	ω
0A	|	*	:	J	Z	j	z	Δ	ε	ρ	ι	υ	χ	φ	θ	ω
0B	|	+	,	K	k	Δ	ε	ρ	ι	υ	χ	φ	θ	ω		
0C	|	-	.	L	l	Δ	ε	ρ	ι	υ	χ	φ	θ	ω		
0D	|	=	>	M	m	Δ	ε	ρ	ι	υ	χ	φ	θ	ω		
0E	|	?	0	N	n	Δ	ε	ρ	ι	υ	χ	φ	θ	ω		
0F	|	/	?	O	o	Δ	ε	ρ	ι	υ	χ	φ	θ	ω		

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 (Fnc) Input

This is normally open circuit. If pads JP4.1 and JP4.2 are linked. Pin 3 = /Reset.

CONTACT

Noritake Sales Office Tel Nos
Nagoya Japan: +81 (0)52-561-9867
Canada: +1-416-291-2946
Chicago USA: +1-847-439-9020
Munich (D): +49 (0)89-3214-290
Itron UK: +44 (0)1493 601144
Rest Europe: +49 (0)61-0520-9220
www.noritake-itron.com

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