

## VACUUM FLUORESCENT DISPLAY MODULE

### ENGINEERING PROPOSAL

**GP1128A01A**

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EVALUATION

- ACCEPTED WITHOUT ANY CHANGE  
 THE FOLLOWING CHANGE IS REQUIRED

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VFD MODULE GROUP

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## 1. FEATURES

FUTABA GP1128A01A is a graphic display module using a FUTABA 160×64dots VFD.

It consists of a control ASIC with internal Static-RAM of 2320bytes and power source.

The module can be connected directly to the bus-line of the host system CPU.

## 2. GENERAL DESCRIPTION

### 2-1. DIMENSIONS, WEIGHT (Refer to FIGURE-4)

Table-1

Item	Specification	Unit
Outer dimensions	(W) 125±1	mm
	(H) 56.3±1	
	(T) 29.6 MAX.	
Weight	Approx. 150	g

### 2-2. SPECIFICATIONS OF THE DISPLAY PANEL

Table-2

Item	Specification	Unit
Display Area	71.9(W)×28.7(H)	mm
Number of Dots	160×64	Dot
Dot Size (H×W)	0.35×0.35	mm
Dot Pitch (H×W)	0.45×0.45	mm
Color Illumination	Green ( λ p=505nm)	—
Luminance	500 (Typ)	cd/m <sup>2</sup>

Note) By using a filter, uniform color range from blue to orange (including white) can be obtained.

### 2-3. ENVIRONMENT CONDITIONS

Table-3

Item	Symbol	Min.	Max.	Unit
Operation Temperature	<i>Topr</i>	-20	+70	°C
Storage Temperature	<i>Tstg</i>	-30	+80	°C
Operating Humidity	<i>Hopr</i>	20	85	%
Storage Humidity	<i>Hstg</i>	20	90	%
Vibration (10 ~ 55Hz)	—	—	4	G
Shock	—	—	40	G

Note) Avoid operations and or storage in moist environmental conditions.

## 2-4. ABSOLUTE MAXIMUM RATINGS

Table-4

Item	Symbol	Min.	Max.	Unit
Supply Voltage	$V_{CC}$	-0.3	6.0	Vdc
Input Signal Voltage	$V_{IS}$	-0.3	$V_{CC}+0.3$	V

## 2-5. RECOMMEND OPERATING CONDITIONS

Table-5

Item	Symbol	Min.	Typ.	Max.	Unit
Supply Voltage	$V_{CC}$	4.5	5.0	5.5	Vdc
H-Level Input Voltage	$V_{IH}$	2.6	–	–	V
L-Level Input Voltage	$V_{IL}$	–	–	0.7	V

## 2-6. ELECTRICAL CHARACTERISTICS

Table-6

Item	Symbol	Condition	Min.	Typ.	Max.	Unit
Supply Current (Note1)	$I_{CC}$	$V_{CC} = 5.0\text{Vdc}$ All on	–	750	1000	mA
Power Consumption	–		–	3.75	5.0	W
Luminance	$L$		250	500	–	cd/m <sup>2</sup>
H-Level Output Voltage	$V_{OH}$	$V_{CC} = 4.5\text{Vdc}$ $I_{OH} = -2\text{mA}$	3.6	–	–	V
L-Level Output Voltage	$V_{OL}$	$V_{CC} = 4.5\text{Vdc}$ $I_{OL} = 3.2\text{mA}$	–	–	0.5	V

Note) The surge current can be approx. 5 times the specified supply current at power on.

6. OUTER DIMENSION

FIGURE-4

