



蛍光表示管製品規格  
VACUUM FLUORESCENT DISPLAY  
SPECIFICATION

形名・Type No. FV648G

富士通電子工業株式会社  
電子管工場 技術部  
ENGINEERING DEPT.  
ELECTRONIC DISPLAY PLANT  
FUTABA CORPORATION

用途: Application AVDIO  
概要: Features 11 GRID x 16 ANODE  
発光色: Color of Illumination Green (G, x=0.235, y=0.406)

外形寸法 Outer Dimension	Panel Length	P.L.	129.0	mm
	Panel Height	P.H.	29.0	mm
	Panel Thickness	P.T.	8.0	mm
	Lead Pitch	L.P.	2.54	mm
端子 Lead	Lead Out		SIL	mm

項目	Item	Symbol	Min	Recommended	Max	Unit
フィラメント電圧	Filament Voltage	*1 Ef	4.14	4.6	5.06	Vac
セミアノード電圧	Peak Grid Voltage	ec	-	33	40	Vp-p
		eb(G.)	-	33	40	Vp-p
		eb( )	-	-	-	Vp-p
		eb( )	-	-	-	Vp-p
		eb( )	-	-	-	Vp-p
カットオフバイアス	Cut-Off Bias	*2 Bk	-	5.3	-	Vdc
デューティファクター	Duty Factor	Du	-	1/15	-	-
パルス幅	Pulse Width	tp	-	100	-	μs
拡散グリッド電圧	Diffusion Grid Voltage	*3 Ecd	-	-	-	Vdc
フィラメント電圧	Filament damper Voltage	*4 Efd	-	-	-	Vdc
動作温度	Operating Temperature	Topr	-20	-	+70	°C
保存温度	Storage Temperature	Tstg	-55	-	+80	°C

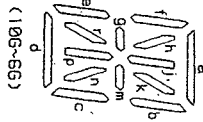
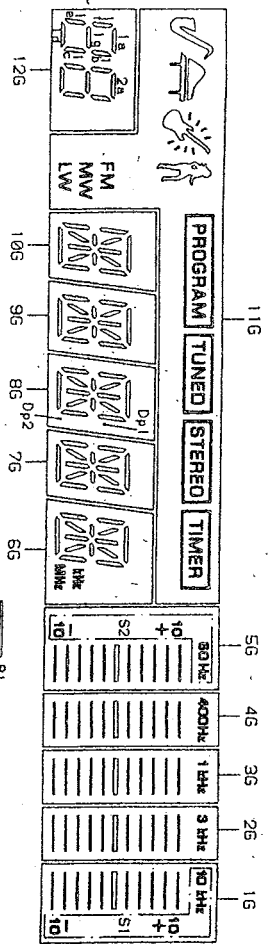
- AC50または60Hzの実効値。
  - 50Hz or 60Hz r.m.s.
  - フィラメント電圧の中心タップに印加する。  
E<sub>k</sub> is applied to the center tap of the filament transformer.
  - R<sub>d</sub> = KΩの抵抗を通して印加する。  
E<sub>cd</sub> is supplied through KΩ resistor to the Gd terminal.
  - R<sub>fd</sub> = KΩの抵抗を通して印加する。  
E<sub>fd</sub> is supplied through KΩ resistor to the Gd terminal.
- 注1. The filament voltage shall be kept within above rating to maintain the expected life and display quality.  
注2. In case of the driving condition differs from this specification, consult to FUTABA for the proper usage.

電気的特性: Electrical Characteristics

Item	Test Condition	Symbol	Min	Typ.	Max	Unit
フィラメント電流 Filament Current	E <sub>f</sub> = 4.6 Vac e <sub>b</sub> = e <sub>c</sub> = 0	I <sub>f</sub>	157	175	193	mA
アノード電流 Anode Current	E <sub>f</sub> = 4.6 Vac e <sub>c</sub> = 33 Vp-p eb(G.) = 33 Vp-p eb( ) = Vp-p eb( ) = Vp-p eb( ) = Vp-p	I <sub>a</sub> I <sub>a1</sub> I <sub>a2</sub> I <sub>a3</sub> I <sub>a4</sub> I <sub>a5</sub> I <sub>a6</sub> I <sub>a7</sub> I <sub>a8</sub> I <sub>a9</sub> I <sub>a10</sub>	-	6.5 8.5 37	13 17 63	mA
グリッド電流 Grid Current	* (E <sub>k</sub> = 5.3 Vdc) tp = 100 μs td <sub>blank</sub> = 0 μs Du = 1/15	I <sub>g</sub> I <sub>g1</sub> I <sub>g2</sub> I <sub>g3</sub> I <sub>g4</sub> I <sub>g5</sub> I <sub>g6</sub> I <sub>g7</sub> I <sub>g8</sub> I <sub>g9</sub> I <sub>g10</sub>	-	8.5 11 16	17 22 28	mA
拡散グリッド電流 Diffusion Grid Current	E <sub>cd</sub> = Vdc	I <sub>cd</sub>	-	-	-	mA
輝度 Luminance	R <sub>d</sub> = KΩ	L <sub>d</sub> (G.)	350	700	( )	cd/m <sup>2</sup> (fL)
	E <sub>rg</sub> = Vdc	L <sub>c</sub> ( )	( )	( )	( )	cd/m <sup>2</sup> (fL)
	R <sub>gd</sub> = KΩ	L <sub>c</sub> ( )	( )	( )	( )	cd/m <sup>2</sup> (fL)
		L <sub>c</sub> ( )	( )	( )	( )	cd/m <sup>2</sup> (fL)
		L <sub>c</sub> ( )	( )	( )	( )	cd/m <sup>2</sup> (fL)
		L <sub>c</sub> ( )	( )	( )	( )	cd/m <sup>2</sup> (fL)
		L <sub>c</sub> ( )	( )	( )	( )	cd/m <sup>2</sup> (fL)
		L <sub>c</sub> ( )	( )	( )	( )	cd/m <sup>2</sup> (fL)
		L <sub>c</sub> ( )	( )	( )	( )	cd/m <sup>2</sup> (fL)
		L <sub>c</sub> ( )	( )	( )	( )	cd/m <sup>2</sup> (fL)
輝度比 Luminance Ratio between Digits	 E <sub>f</sub> = 4.6 Vac E <sub>b</sub> = 33 Vdc E <sub>c</sub> = vary E <sub>d</sub> = 4.6 Vac Du = 1/15	L <sub>max</sub> L <sub>min</sub>	-	-	2	
グリッド消去電圧 Grid Cut-Off Voltage	E <sub>f</sub> = 4.6 Vac E <sub>b</sub> = 33 Vdc E <sub>c</sub> = vary	E <sub>cco</sub>	*(-5.3)	-	-	Vdc
アノード消去電圧 Anode Cut-Off Voltage	tp = 100 μs ec = 33 Vp-p Eb = vary	E <sub>bco</sub>	*(-5.3)	-	-	Vdc

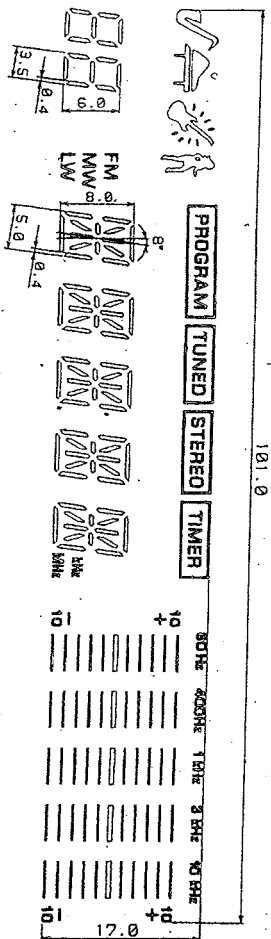
\* ( )内は、セクタターップを接地した場合である。  
The value in \* ( ) is shown for the center tap grounded.

形名 Type No.  
FV648G

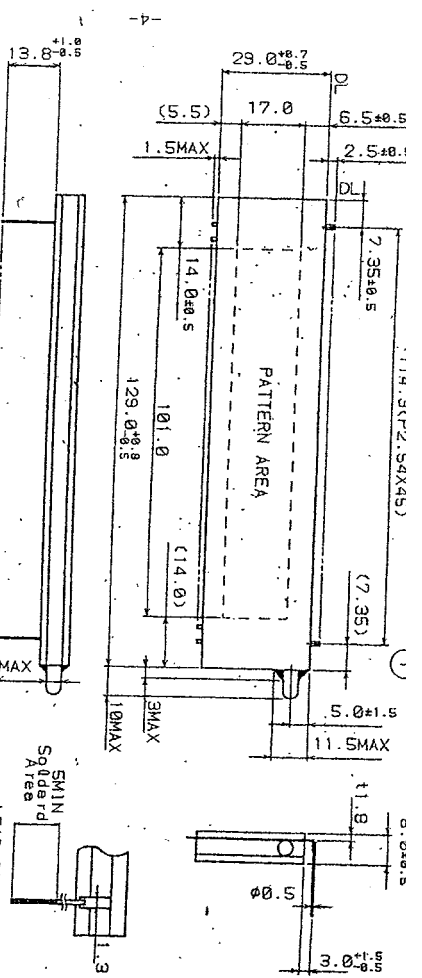


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- 89
- 810
- 811

FV6486  
GRID ASSIGNMENT  
(106-666)



FV6486  
PATTERN DETAIL



PIN CONNECTION

PIN NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
CONNECTION	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M

NOTE: 1) F1, F2 --- Flipament  
 2) NP --- No pin  
 3) NC --- No Connection  
 4) DL --- Datum Line  
 5) 106-126 --- Grid

FV6486  
LEAD DIMENSION

F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	F14	F15	F16
126	116	106	96	86	76	66	56	46	36	26	16	-	-	-	-
PROGRAM	TUNED	STEREO	STEREO	TIMER	-	-	-	-	-	-	-	-	-	-	-
10Hz	14Hz	3Hz	S11	-	-	-	-	-	-	-	-	-	-	-	-
A	A	A	A	A	B	B	B	B	B	B	B	C	C	C	C
81	81	81	81	81	82	82	82	82	82	82	82	83	83	83	83
81	81	81	81	81	84	84	84	84	84	84	84	85	85	85	85
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FV6486  
ANODE CONNECTION