Dieter’s

Nixie Tube Data Archive

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If you have more datasheets, articles, books, pictures or other information about Nixie tubes or other display devices please let me know.
Thank you!

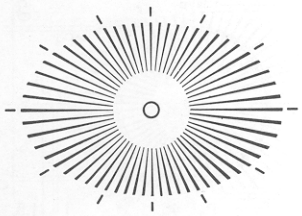
Document in this file	NEC datasheet for FIP60B30T VFD tube – Dated 1980
Display devices in this document	FIP60B30T

File created by Dieter Waechter
www.tube-tester.com

NEC
ELECTRON DEVICE

FLUORESCENT INDICATOR PANEL
FIP60B30T

CHARACTER FORMAT



(SIZE 7/9)

FEATURES Compatible with MOS LSI.

APPLICATIONS Analogue clock and other analogue display equipments.

OPERATION MODE FIP60B30T is designed for a multiplexed drive mode.

MECHANICAL DATA

External Dimensions, Terminal, Shape and Size of a Digit . . . . See attached drawing
Operating Temperature Range . . . . . −10 to +60 °C
Storage Temperature Range . . . . . −40 to +70 °C
Weight . . . . . 70 g approx.
Mounting Position . . . . . Any

OPTICAL DATA

Color . . . . . Green
Brightness . . . . . 690 cd/m^2 (200 ft.L)

ELECTRICAL DATA

	UNIT	E_f Vac	e_b Vp-p	e_c Vp-p	Du* —	t_p** μs	t_b μs	f Hz	E_{cco} Vdc	E_{bco} Vdc	L cd/m^2	L (ft.L)
Maximum Ratings	MAX.	3.0	40	18	1/2	—	—	—	—	—	—	—
	MIN.	2.5	—	—	—	40	10	300	—	—	—	—
Typical Operation	TYP.	2.7	30	15	1/3	100	10	3×10^3	−3	−3	690	(200)

*effective value
**without blanking duration

ELECTRICAL CHARACTERISTICS

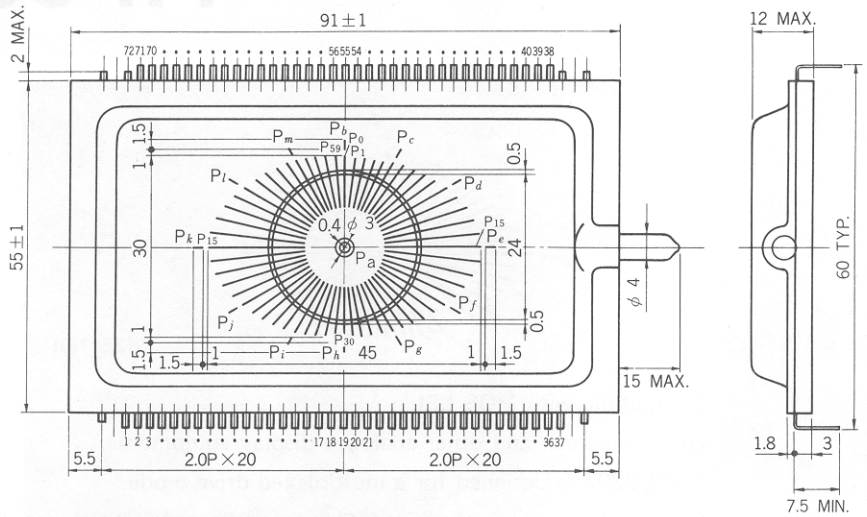
(Test circuit is specified by FEB-1001)

ITEM	SYMBOL	CONDITION	TOLERANCE MIN.	TOLERANCE NOM.	TOLERANCE MAX.	UNIT
Filament Current	I_f	E_f=2.7 Vac, e_b=e_c=0	175	196	215	mAac
Anode Current	i_b	E_f=2.7 Vac, e_b=30 Vp-p, e_c=15 Vp-p, Du=1/3, t_p=100 μs, All segments are lit.	—	0.9	1.5	mAp-p
Grid Current	i_c/1G		—	10	18	mAp-p
	i_c/2G		—	4.5	8	
Brightness	L		340 (100)	690 (200)	—	cd/m^2 (ft.L)
Brightness Ratio Between Digit	L MIN./L MAX.		50	—	—	%
Anode Cut-off Voltage	E_{bco}	E_f=2.7 Vac, e_c=15 Vp-p, Du=1/3, t_p=100 μs, All segments are lit.	−1	—	—	Vdc
Grid Cut-off Voltage	E_{cco}	E_f=2.7 Vac, E_b=30 Vdc, All segments are lit.	−3	—	—	Vdc

Note 1: These values are specified when e_b and e_c are supplied from the center tap of the filament transformer, and also specified at 25 °C

Note 2: These current values are specified when the segments (the longest bar segment, panel center segment, and scale-segments around the circular bars) are lit.

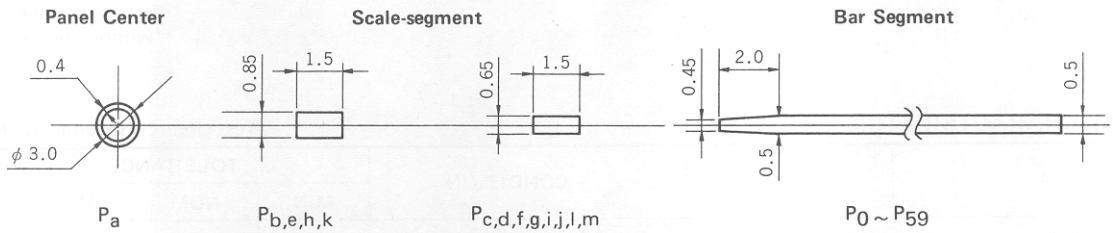
Fig. 1 OUTLINE DRAWING (Unit : mm)



TERMINAL CONNECTION

Terminal No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Electrode	F	$P_{a\sim m}$	P_{45}	P_{44}	P_{43}	1G	P_{42}	P_{41}	P_{40}	P_{39}	P_{38}	P_{37}	P_{36}	P_{35}	P_{34}	P_{33}	P_{32}	P_{31}	1G	P_{30}	P_{29}	P_{28}	P_{27}	P_{26}	P_{25}
Terminal No.	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
Electrode	P_{24}	P_{23}	P_{22}	P_{21}	P_{20}	P_{19}	1G	P_{18}	P_{17}	P_{16}	2G	F	NC	P_{15}	P_{14}	P_{13}	1G	P_{12}	P_{11}	P_{10}	P_9	P_8	P_7	P_6	P_5
Terminal No.	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72			
Electrode	P_4	P_3	P_2	P_1	1G	P_0	P_{59}	P_{58}	P_{57}	P_{56}	P_{55}	P_{54}	P_{53}	P_{52}	P_{51}	P_{50}	P_{49}	1G	P_{48}	P_{47}	P_{46}	NC			

Fig. 2 SEGMENT PATTERN (Unit : mm)



NOTE FOR USAGE

1. The panel display "FIP" is composed mainly of high quality glass, and so careful handling should be taken.
2. The connecting section between the panel and the lead wires must be free from extreme tensile and bending stresses.
3. When mounting the panel display and equipment, the surface should be utilized except for the exhaust tube and connecting section.
4. The panel display "FIP" should be utilized with green color filter to obtain a good display appearance, and also filterable to red, orange and yellow.
5. Subject to change without any notice.

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FC—1067
FEB.—10—80M
Printed in Japan