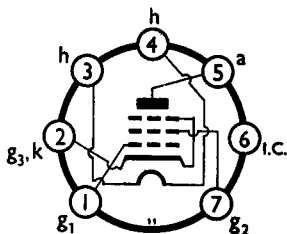




MINIATURE OUTPUT PENTODE 0.3A INDIRECTLY HEATED

N37
APRIL, 1952

BASE CONNECTIONS AND VALVE DIMENSIONS



View from underside
of base.

Base : B7G
Bulb : Tubular

Overall length : 64—70 mm.
Seated length : 58—64 mm.
Max. diameter 19 mm.

RATING

Pentode Connection

I_h	0.3	A		
V_h	13 approx.	V		
v_{h-k} (pk)	150 max.	V		
V_a	165 max.	V		
V_{g2}	165 max.	V		
P_a	9 max.	W		
P_{g2}	3 max.	W		
μ	} at $V_a, V_{g2}=165, V_{g1}=-9$ {			
r_a			220	k Ω
g_m			23.2 9.5	mA/V

Triode Connection

V_a, g_2	165 max.	V		
P_a, g_2	12 max.	W		
μ	} at $V_a, g_2=165, V_{g1}=-9$ {			
r_a			10	Ω
g_m			835 12	mA/V

CAPACITANCES (of uns. reened valve) :

c_{a-all} 10 pF c_{g1-all} 10 pF c_{a-g1} 0.3 pF

TYPICAL OPERATION

Single Valve. Class A, Pentode Connection

% full input	45	100	100	75	50	%
V_a	100	150	165	165	165	V
V_{g2}	100	150	165	165	165	V
V_{g1}	-4.6	-7.8	-9.3	-10	-11.4 approx.	V
I_a (o)	39	56	53	40	29	mA
I_{g2} (o)	6.5	9.5	9	7.2	5.4	mA
R_k	100	120	150	220	330	Ω
v_{in} (pk)	5	7	8.5	6.7	4.7	V
R_L	2.5	3	3	4	6	k Ω
P_{out}	1.45	3.5	4.1	2.84	2.3	W
D	8.6	11	10	10	10	%

The conditions given in the last two columns are those obtained when the valve is over-biased. They are useful when H.T. power is limited and reduced power output can be tolerated.

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Two Valves. Push-pull, Class AB₁, Pentode Connection

Data per pair unless otherwise stated.

V _a	100	165	200	250	V
V _{g2}	100	165	165	165	V
V _{g1}	-5	-11.9	-10	-11.2 approx.	V
I _a (o)	70	107	87	66	mA
I _a (max. sig.)	73	110	100	80	mA
I _{g2} (o)	12	18	14	10	mA
I _{g2} (max. sig.)	15	36	25	24	mA
R _k (per valve)	120	150	200	300	Ω
v _{in} (pk) (g ₁ -g ₁)	11	20	25	30	V
R _L (a-a)	3	3	4.5	7.5	kΩ
P _{out}	2.25	9	11.5	13.3	W
D	3.3	4.6	4	4.5	%

Two Valves. Push-pull, Class AB₁, Triode Connection

Data per pair unless otherwise stated.

V _{a,g2}	165	V
V _{g1}	-10.5 approx.	V
I _{a,g2} (o)	65	mA
I _{a,g2} (max. sig.)	74	mA
R _k (per valve)	330	Ω
v _{in} (pk) (g ₁ -g ₁)	24	V
R _L (a-a)	3	kΩ
P _{out}	2.6	W
D	1.4	%

GRID RESISTOR

The maximum permissible D.C. resistance from control grid to cathode is limited to 0.27 MΩ ± 20% for auto-bias and 0.1 MΩ for fixed bias applications.

SCREENING

No internal or external screening is fitted to the valve.

MOUNTING

Any position.

RETAINING

The use of a retaining device is recommended.

VENTILATION

Free air circulation around the bulb is preferable. If a retaining device in the form of a canister is employed, the surfaces should be blackened. The temperature of the hottest part of the bulb must not exceed 250°C.

MICROPHONY

Although this is of a very low order, equipment should be designed to minimise microphony.

