

MINIATURE DIODE PENTODE

DAF91

Short grid-base pentode, particularly suitable for A.F. voltage amplification, combined with a single diode.

FILAMENT

This valve is suitable for D.C. operation only.

V_f	1.4	V
I_f	0.05	A

CAPACITANCES (Measured without external shield)

C_{a-g1}	< 0.4	$\mu\mu\text{F}$
C_{in}	2.0	$\mu\mu\text{F}$
C_{out}	2.8	$\mu\mu\text{F}$
C_{a1-a11}	1.5	$\mu\mu\text{F}$

CHARACTERISTICS

Pentode Section

V_a	67.5	90	V
V_{g2}	67.5	90	V
I_a	1.6	2.7	mA
I_{g2}	0.4	0.63	mA
V_{g1}	0	0	V
g_m	625	720	$\mu\text{A}/\text{V}$
r_a	600	500	k Ω
μ_{g1-g2}	13.5	13.5	

Diode Section

The diode anode is located at the negative end of the filament.

LIMITING VALUES

Pentode Section

V_a max.	90	V
p_a max.	250	mW
V_{g2} max.	90	V
p_{g2} max.	60	mW
V_{g1} max.	0	V
I_k max.	4.5	mA
* R_{g1-f} max.	3.0	M Ω

* R_{g1-f} max. = 22M Ω if grid current biasing is employed.

This valve can be used without special precautions against microphony in circuits in which the input voltage, V_{in} , is not less than 40 mV for an output of 50 mW from the output stage.

Diode Section

P.I.V. max.	100	V
$I_{a,d}$ max.	0.2	mA
$i_{a,d}$ (pk) max.	1.2	mA



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OPERATING CONDITIONS AS RESISTANCE COUPLED A.F. AMPLIFIER, CONNECTED AS PENTODE. ($V_{g1}=0$).

V_b (V)	R_a (M Ω)	I_a (μ A)	R_{g2} (M Ω)	I_{g2} (μ A)	$\frac{V_{out}}{V_{in}}$	V_{out} (V r.m.s.)	D_{tot} (%)	$\frac{V_{out}^*}{V_{in}}$	V_{out}^* (V r.m.s.)	R_{g1}^{**} (M Ω)
90	0.27	220	1.0	61	49	4.9	0.8	42.4	14.4	0.47
90	0.27	220	1.0	61	60	6.0	1.4	51.5	17.5	1.0
90	0.27	220	1.0	61	69	6.9	2.0	58.9	20.0	4.7
90	0.47	130	1.8	36	66.5	6.65	1.7	59	16.5	1.0
90	0.47	130	1.8	36	83.5	8.35	3.1	72.5	20.3	4.7
90	0.47	130	1.8	36	87	8.7	3.5	75	21.0	10
90	1.0	65	3.9	18.7	90	9.0	3.0	84	15.1	2.2
90	1.0	65	3.9	18.7	104	10.4	3.3	96.8	17.4	4.7
90	1.0	65	3.9	18.7	110	11.0	3.6	103.5	17.6	10

67.5	0.27	145	1.0	41	41	4.1	1.8	37.9	9.85	0.47
67.5	0.27	145	1.0	41	50	5.0	1.3	45	12.6	1.0
67.5	0.27	145	1.0	41	57	5.7	1.6	50.6	15.2	4.7
67.5	0.47	87	1.8	25	55	5.5	1.7	49.6	10.4	1.0
67.5	0.47	87	1.8	25	68	6.8	2.0	60.3	13.9	4.7
67.5	0.47	87	1.8	25	70	7.0	2.1	61.8	14.8	10
67.5	1.0	45	3.9	13	71	7.1	2.3	66.8	10.0	2.2
67.5	1.0	45	3.9	13	82	8.2	2.5	75.3	12.8	4.7
67.5	1.0	45	3.9	13	86.5	8.65	2.7	78.8	13.4	10

45	0.27	80	1.0	23.2	31	1.55	2.1	30.4	3.95	0.47
45	0.27	80	1.0	23.2	38.8	1.94	1.9	35.3	6.0	1.0
45	0.27	80	1.0	23.2	45	2.25	1.2	39.7	7.55	4.7
45	0.47	50	1.8	14.6	43	2.15	2.0	41.6	5.0	1.0
45	0.47	50	1.8	14.6	55	2.75	1.7	49.3	7.4	4.7
45	0.47	50	1.8	14.6	57	2.85	1.6	50.6	7.6	10
45	1.0	25	3.9	7.7	56	2.8	2.9	56	5.6	2.2
45	1.0	25	3.9	7.7	65	3.25	2.4	59	6.5	4.7
45	1.0	25	3.9	7.7	70	3.5	2.0	62.7	6.9	10

* $D_{tot}=5\%$.

** Grid resistor of following valve.

OPERATING CONDITIONS AS RESISTANCE COUPLED A.F. AMPLIFIER, CONNECTED AS TRIODE. (g_2 to a).

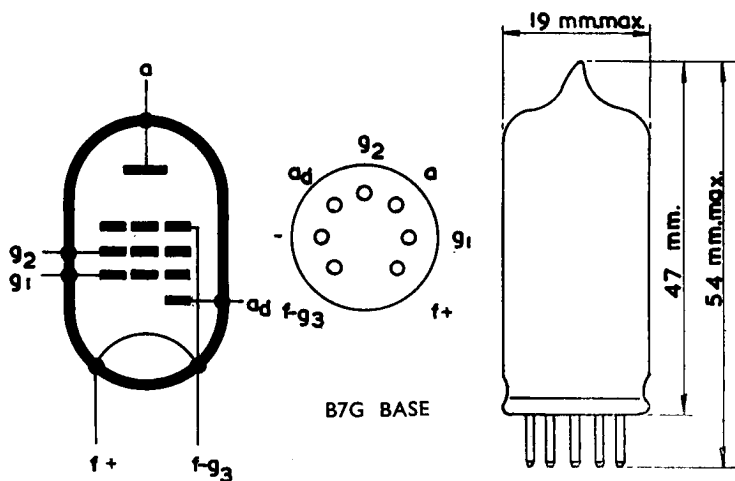
V_b (V)	R_a (k Ω)	I_a (mA)	$\frac{V_{out}}{V_{in}}$	V_{out} (V r.m.s.)	D_{tot} (%)	R_{g1}^* (M Ω)
90	220	0.25	11.0	5	1.0	0.68
90	470	0.13	11.5	5	0.8	1.5

* Grid resistor of following valve.

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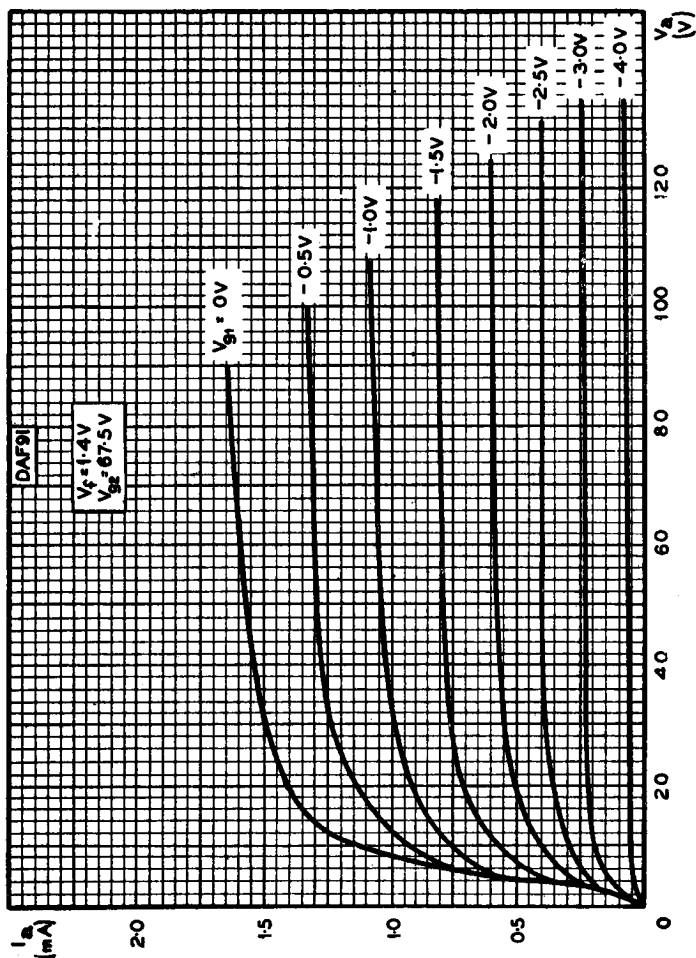
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ANODE CURRENT PLOTTED AGAINST ANODE VOLTAGE WITH CONTROL-GRID VOLTAGE AS PARAMETER.