

VALVE DATA PREFERRED TYPES 4 VOLTAGE AMPLIFYING PENTODES A

Miniature single diode pentode with sharp cut-off characteristics, primarily intended for use as A.F. voltage amplifier. The diode section, which is located at the negative end of the filament is available as demodulator or as A.V.C. rectifier

DAF 91

FILAMENT

V_f 1.4 V I_f 0.05 A Suitable for D.C. operation only

CAPACITANCES

C_{a-g1}	0.2	$\mu\mu\text{F}$
C_{in}	2.2	$\mu\mu\text{F}$
C_{out}	2.4	$\mu\mu\text{F}$

CHARACTERISTICS

V_a	67.5	90	V
V_{g2}	67.5	90	V
V_{g1}	0	0	V
I_a	1.6	2.7	mA
I_{g2}	0.4	0.5	mA
g_m	625	720	$\mu\text{A/V}$
r_a (approx.)	0.6	0.5	M Ω

OPERATING CONDITIONS

As R.C. coupled A.F. amplifier ($V_{g1} = 0$)

V_b	45	45	45	45	45	45	45	45	V
R_a	0.27	0.27	0.27	0.47	0.47	0.47	1.0	1.0	M Ω
I_a	80	80	80	50	50	50	25	25	μA
R_{g2}	1.0	1.0	1.0	1.8	1.8	1.8	3.9	3.9	M Ω
I_{g2}	23.2	23.2	23.2	14.6	14.6	14.6	7.7	7.7	μA
R_{g1}^*	0.47	1.0	4.7	1.0	4.7	10	2.2	4.7	M Ω
$V_{out(r.m.s.)}$	1.55	1.94	2.25	2.15	2.75	2.85	2.8	3.25	V
V_{out}/V_{in}	31	38.8	45	43	55	57	56	65	
D_{tot}	2.1	1.9	1.2	2.0	1.7	1.6	2.9	2.4	%
$V_{out(r.m.s.)}$ ($D_{tot} = 5\%$)	3.95	6.0	7.55	5.0	7.4	7.6	5.6	6.5	V
V_{out}/V_{in} ($D_{tot} = 5\%$)	30.4	35.3	39.7	41.6	49.3	50.6	56	59	

V_b	67.5	67.5	67.5	67.5	67.5	67.5	67.5	67.5	V
R_a	0.27	0.27	0.27	0.47	0.47	0.47	1.0	1.0	M Ω
I_a	145	145	145	87	87	87	45	45	μA
R_{g2}	1.0	1.0	1.0	1.8	1.8	1.8	3.9	3.9	M Ω
I_{g2}	41	41	41	25	25	25	13	13	μA
R_{g1}^*	0.47	1.0	4.7	1.0	4.7	10	2.2	4.7	M Ω
$V_{out(r.m.s.)}$	4.1	5.0	5.7	5.5	6.8	7.0	7.1	8.2	V
V_{out}/V_{in}	41	50	57	55	68	70	71	82	
D_{tot}	1.8	1.3	1.6	1.7	2.0	2.1	2.3	2.5	%
$V_{out(r.m.s.)}$ ($D_{tot} = 5\%$)	9.85	12.6	15.2	10.4	13.9	14.8	10.0	12.8	V
V_{out}/V_{in} ($D_{tot} = 5\%$)	37.9	45	50.6	49.6	60.3	61.8	66.8	75.3	

* Grid resistance of following valve



4 VALVE DATA PREFERRED TYPES

A VOLTAGE AMPLIFYING PENTODES

DAF 91

(contd.)

OPERATING CONDITIONS (contd.)

As R.C. coupled A.F. amplifier ($V_{g1}=0$)

V_b	90	90	90	90	90	90	90	90	90	V
R_a	0.27	0.27	0.27	0.47	0.47	0.47	1.0	1.0	1.0	M Ω
I_a	220	220	220	130	130	130	65	65	65	μ A
R_{g2}	1.0	1.0	1.0	1.8	1.8	1.8	3.9	3.9	3.9	M Ω
I_{g2}	61	61	61	36	36	36	18.7	18.7	18.7	μ A
R_{g1}^*	0.47	1.0	4.7	1.0	4.7	10	2.2	4.7	10	M Ω
$V_{out(r.m.s.)}$	4.9	6.0	6.9	6.65	8.35	8.7	9.0	10.4	11.0	V
V_{out}/V_{in}	49	60	69	66.5	83.5	87	90	104	110	
D_{tot}	0.8	1.4	2.0	1.7	3.1	3.5	3.0	3.3	3.6	%
$V_{out(r.m.s.)}$ ($D_{tot}=5\%$)	14.4	17.5	20	16.5	20.3	21.0	15.1	17.4	17.6	V
V_{out}/V_{in} ($D_{tot}=5\%$)	42.4	51.5	58.9	59	72.5	75	84	96.8	103.5	

*Grid resistance of following valve

LIMITING VALUES

V_a max.	90	V
V_{g2} max.	90	V
V_{g1} max.	0	V
I_k max.	4.5	mA
I_{ad} max.	0.25	mA



BASE :

B7G

DIMENSIONS :

L=54 mm

D=19mm

DF 33

H.F. pentode with variable-mu characteristics

FILAMENT

V_f 1.4 V I_f 0.05 A Suitable for D.C. operation only

CAPACITANCES

C_{a-g1}	<0.007	μ F
C_{in}	3.8	μ F
C_{out}	9.5	μ F

OPERATING CONDITIONS

V_a	90	V
V_{g2}	90	V
V_{g1}	0	V
I_a	1.2	mA
I_{g2}	0.3	mA
g_m	750	μ A/V
r_a	1.5	M Ω
V_{g1} ($g_m=5\mu$ A/V)	-4.0	V

