

MINIATURE OUTPUT PENTODE

DL94

Output pentode with centre-tapped filament for use in battery operated equipment. Designed for operation with equal voltages on anode and screen-grid.

FILAMENT

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

Series V_f applied across the two filament sections in series, between pins 1 and 7. V_{g1} referred to pin 1.

Parallel V_f applied across the two filament sections in parallel, between pin 5 and pins 1 and 7 connected together. V_{g1} referred to pin 5.

Single-Section V_f applied across one section of the filament only, between pin 5 and either pin 1 or pin 7.

	Series	Parallel	Single-Section	V
V_f	2.8	1.4	1.4	V
I_f	0.05	0.1	0.05	A

MOUNTING POSITION Any

CAPACITANCES (Measured without external screening)

C_{a-g1}	0.2	$\mu\mu\text{F}$
C_{in}	5.5	$\mu\mu\text{F}$
C_{out}	3.8	$\mu\mu\text{F}$

CHARACTERISTICS

	Filament Connection	
	Series	Parallel
V_a	90	90 V
V_{g2}	90	90 V
V_{g1}	-4.5	-4.5 V
I_a	7.7	9.5 mA
I_{g2}	1.7	2.1 mA
g_m	2.0	2.15 mA/V
μ_{g1-g2}	7.5	7.5
r_a	0.12	0.1 M Ω

OPERATING CONDITIONS AS SINGLE VALVE CLASS "A" AMPLIFIER

Series filament connection.

V_a	90	V
V_{g2}	90	V
V_{g1}	-4.5	V
$I_{a(0)}$	7.7	mA
$I_{g2(0)}$	1.7	mA
R_a	10	k Ω
$V_{in(r.m.s.)}$	3.2	V
P_{out}	240	mW
D_{tot}	7	%

Parallel filament connection.

V_a	85	90	V
V_{g2}	85	90	V
V_{g1}	-5.0	-4.5	V
$I_{a(0)}$	6.9	9.5	mA
$I_{g2(0)}$	1.5	2.1	mA
R_a	10	10	k Ω
$V_{in(r.m.s.)}$	3.5	3.2	V
P_{out}	250	270	mW
D_{tot}	10	7	%



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Single section of filament.

V_a	85	V
V_{g2}	85	V
V_{g1}	-5.0	V
$I_{a(o)}$	3.5	mA
$I_{g2(o)}$	0.8	mA
R_a	20	k Ω
$V_{in(r.m.s.)}$	3.9	V
P_{out}	150	mW
D_{tot}	12	%

OPERATING CONDITIONS FOR TWO VALVES IN PUSH-PULL

Series or parallel filament connection.

V_a	82	90	V
V_{g2}	82	90	V
V_{g1}	-8.2	-9.4	V
$I_{a(o)}$	2×2.0	2×2.0	mA
$I_a(\text{max. sig.})$	2×5.6	2×6.4	mA
$I_{g2(o)}$	2×0.5	2×0.5	mA
$I_{g2}(\text{max. sig.})$	2×2.1	2×2.3	mA
R_{a-s}	14	14	k Ω
$V_{in(g-g)(r.m.s.)}$	12.2	14	V
P_{out}	460	580	mW
D_{tot}	3.5	3.8	%

Single section of filament.

V_a	82	90	V
V_{g2}	82	90	V
V_{g1}	-8.0	-9.1	V
$I_{a(o)}$	2×1.0	2×1.0	mA
$I_a(\text{max. sig.})$	2×2.9	2×3.3	mA
$I_{g2(o)}$	2×0.3	2×0.3	mA
$I_{g2}(\text{max. sig.})$	2×1.1	2×1.3	mA
R_{a-s}	30	30	k Ω
$V_{in(g-g)(r.m.s.)}$	12	13.8	V
P_{out}	230	300	mW
D_{tot}	2.6	2.7	%

LIMITING VALUES

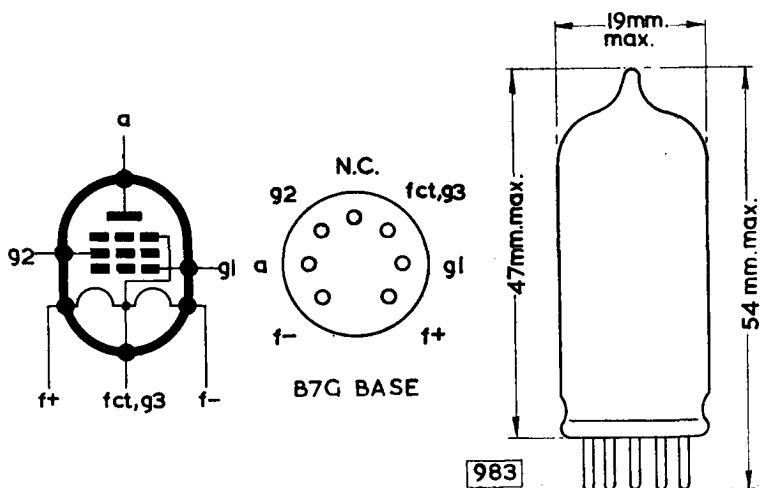
V_a max.	90	V
p_a max.	1	W
V_{g2} max.	90	V
p_{g2} max.	0.3	W
$*I_k$ max.	12	mA
R_{g1-f} max.	1.0	M Ω

$*I_k$ max. for each 1.4-volt section of filament is 6mA.

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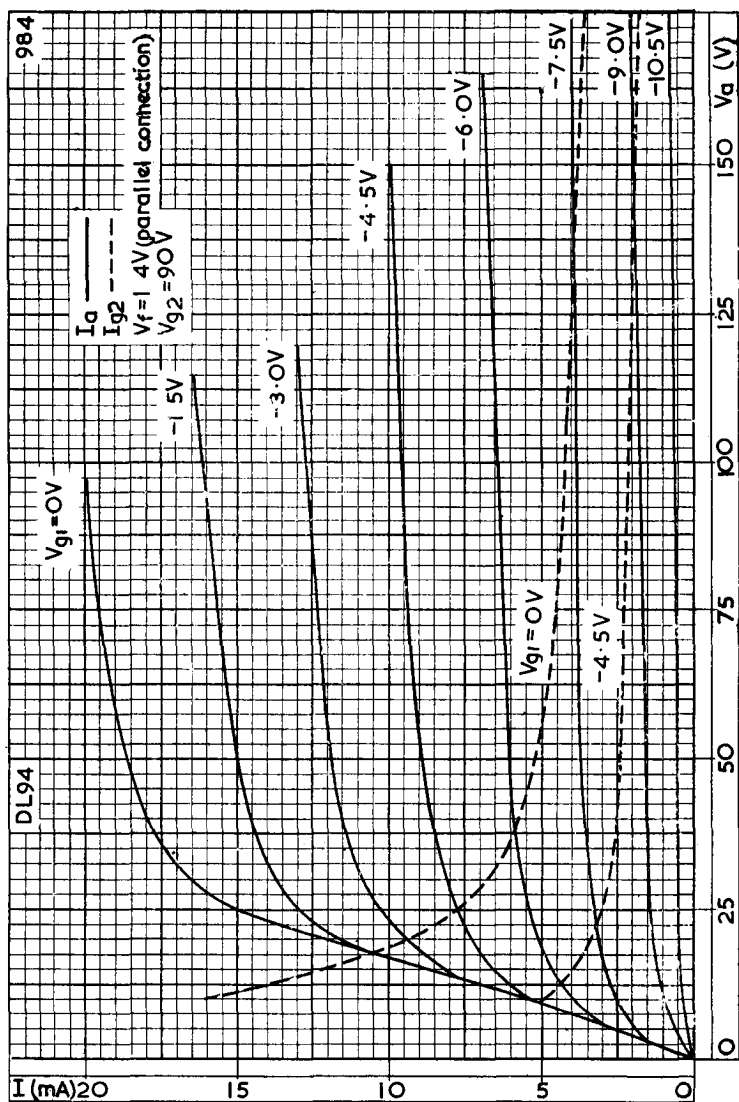
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ANODE CURRENT AND SCREEN-GRID CURRENT PLOTTED AGAINST ANODE VOLTAGE FOR BOTH SECTIONS OF FILAMENT IN PARALLEL