

R.F. POWER TETRODE

QV04-7

Indirectly heated Beam Tetrode with aligned grid construction to minimise screen current. It is rated to dissipate a maximum of 7.5 watts at the anode, and is particularly suitable for use at frequencies up to 150 Mc/s., as an R.F. amplifier or as a frequency multiplier.

This data sheet should be read in conjunction with "Operating Notes, Part I—Power Valves," included in this volume of the Handbook.

CATHODE

Indirectly heated.

V_h	6.3	V
I_h	0.6	A
Heating time	22	secs.

CAPACITANCES

C_{in}	8.0	$\mu\mu\text{F}$
C_{out}	5.4	$\mu\mu\text{F}$
C_{a-g1}	<0.1	$\mu\mu\text{F}$

CHARACTERISTICS at $V_a=300$ V; $V_{g2}=250$ V; $I_a=25$ mA.

g_m	1.9	mA/V
μ_{g1-g2}	5.6	
r_a	67	k Ω

LIMITING VALUES

V_a max.	400	V
V_{g2} max.	250	V
p_a max.	7.5	W
p_{g2} max.	2.0	W
I_x max.	50	mA
I_{g1} max.	6.0	mA

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OPERATING CONDITIONS FOR SINGLE VALVE CLASS "C" R.F. AMPLIFIER

f	3	3	20	20	Mc/s
V _a	300	300	300	300	V
V _{g2}	150	250	150	250	V
V _{g1}	-35	-50	-30	-60	V
I _a	40	43	43.5	43.7	mA
I _{g2}	7.2	6.6	4.7	5.9	mA
I _{g1}	2.8	0.4	1.8	0.4	mA
V _{in(pk)}	58	60	48	67	V
P _a	4.9	4.8	5.8	5.2	W
P _{out}	7.1	8.1	7.3	7.9	W
η	59	62	56	60	%
f	60	60	150	150	Mc/s
V _a	300	300	300	300	V
V _{g2}	150	250	150	250	V
V _{g1}	-30	-50	-30	-50	V
I _a	44	44	44	46	mA
I _{g2}	4.5	6.0	4.5	4.0	mA
I _{g1}	1.9	0.4	1.5	0.4	mA
V _{in(pk)}	48	57	52	57	V
P _a	6.2	5.5	6.9	7.5	W
P _{out}	7.0	7.7	6.3	6.3	W
η	53	58	48	46	%

OPERATING CONDITIONS FOR TWO VALVES CLASS "C" R.F. AMPLIFIER

f	60	100	150	Mc/s
V _a	300	300	300	V
V _{g2}	250	250	250	V
V _{g1}	-60	-60	-50	V
I _a	2 × 43	2 × 44.4	2 × 46	mA
I _{g2}	2 × 6.7	2 × 5.3	2 × 4.0	mA
I _{g1}	2 × 0.5	2 × 0.4	2 × 0.4	mA
V _{in(pk)}	2 × 68	2 × 68	2 × 57	V
P _a	2 × 5.1	2 × 6.0	2 × 7.4	W
P _{out}	15.6	14.7	12.6	W
η	60	55	46	%

OPERATING CONDITIONS FOR SINGLE VALVE FREQUENCY DOUBLER

f _{out}	20	75	100	150	Mc/s
V _a	300	300	300	250	V
V _{g2}	250	250	200	200	V
V _{g1}	-80	-120	-120	-120	V
I _a	41	43.5	38.4	36.8	mA
I _{g2}	8.0	5.5	2.6	2.1	mA
I _{g1}	0.8	1.2	1.5	1.1	mA
V _{in(pk)}	81	124	120	144	V
P _a	6.8	7.4	7.1	6.9	W
P _{out}	5.6	5.6	4.4	2.3	W
η	45	44	38	25	%



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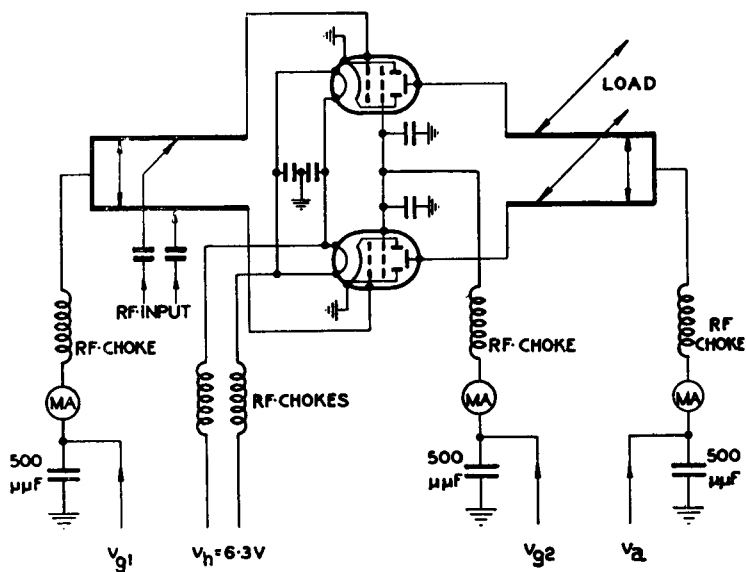
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OPERATING CONDITIONS AS FREQUENCY TREBLER

	Single Valve			Push-Pull	
f_{out}	20	75	100	150	Mc/s
V_a	300	300	275	225	V
V_{g2}	250	250	200	200	V
V_{g1}	-120	-140	-140	-140	V
I_a	35	34	36	2 × 36	mA
I_{g2}	4.2	2.8	2.5	2 × 2.5	mA
I_{g1}	0.6	0.6	1.5	2 × 1.3	mA
$V_{in(pk)}$	109	130	142	2 × 152	V
P_a	7.3	7.1	7.1	2 × 6.6	W
P_{out}	3.3	3.2	2.8	3.1	W
η	31	31	28	19	%

WEIGHT Valve only ; 1½ oz.



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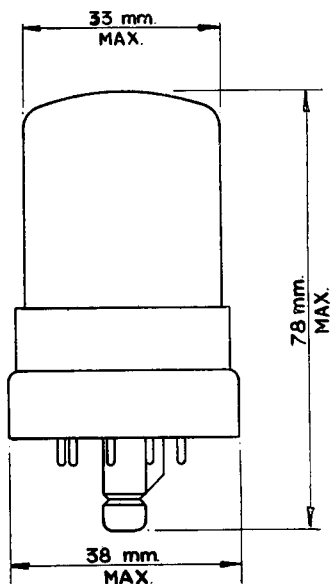
Parallel-line Push-pull R.F. Amplifier

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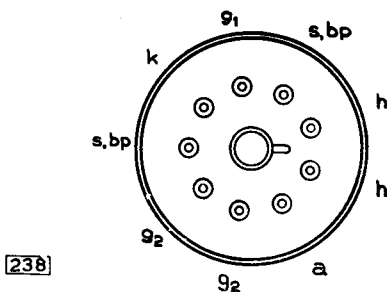
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DIMENSIONS AND BASE CONNECTIONS



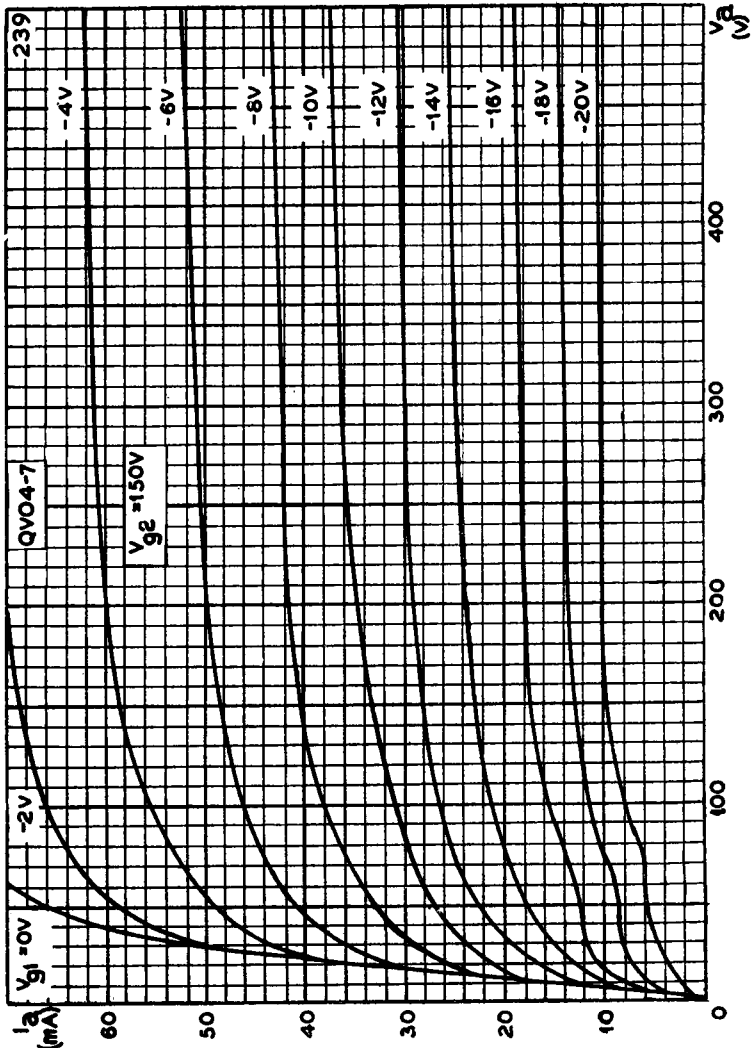
9-PIN PRESSED GLASS BASE TO FIT B9G VALVE HOLDER



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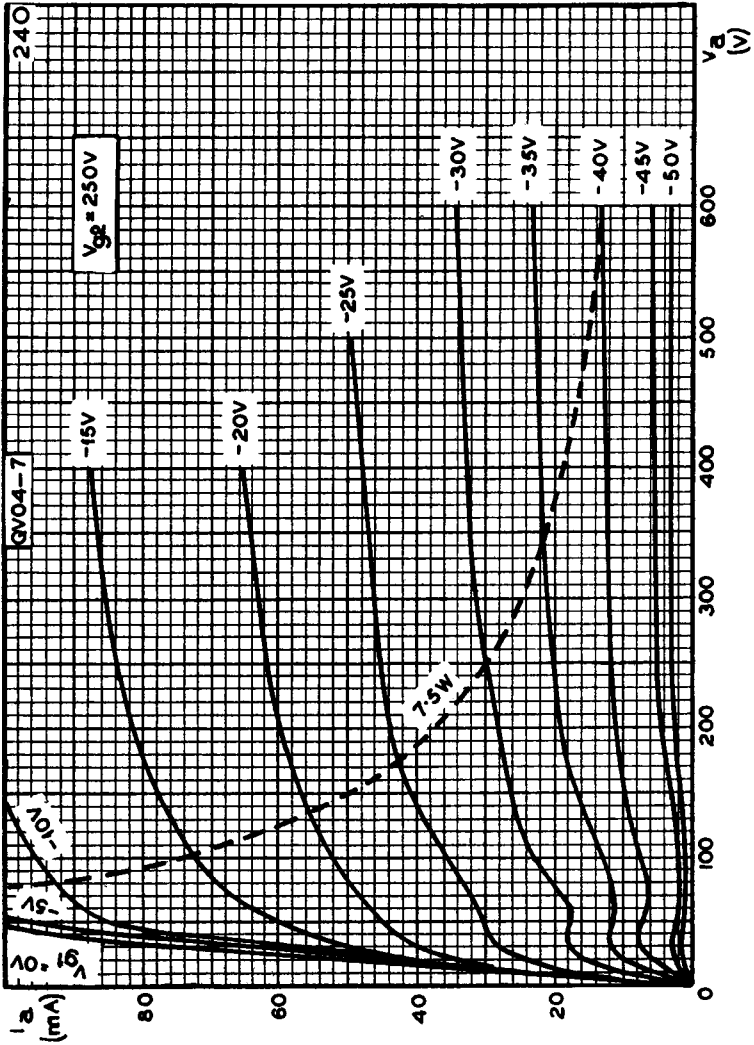
ANODE CURRENT PLOTTED AGAINST ANODE VOLTAGE. $V_{g2} = 150V$



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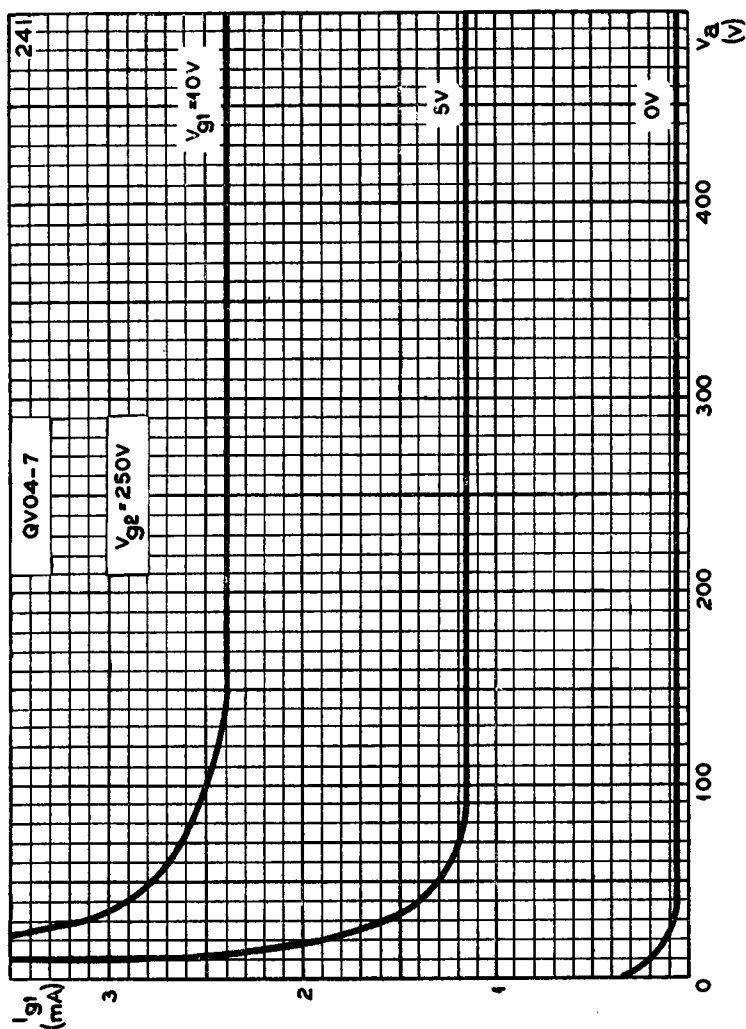


ANODE CURRENT PLOTTED AGAINST ANODE VOLTAGE. $V_{K2} = 250V$

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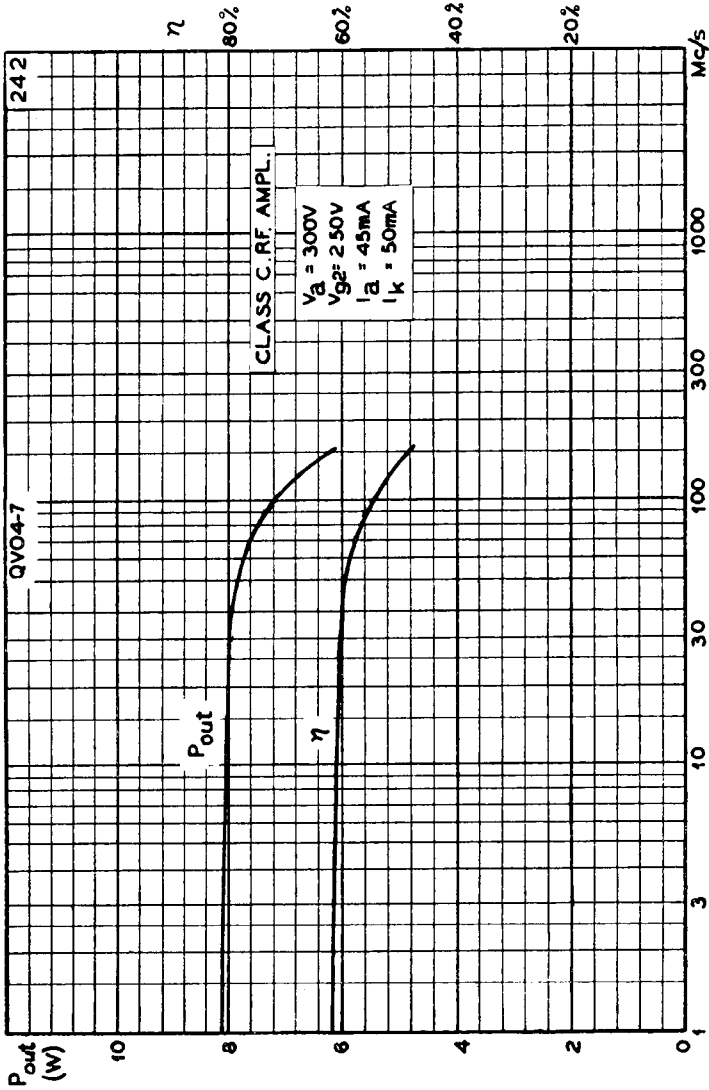


GRID CURRENT PLOTTED AGAINST ANODE VOLTAGE $V_{g2} = 250V$

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FREQUENCY CHARACTERISTICS

