

V.H.F. POWER DOUBLE TETRODE

QQV04-15

V.H.F. double tetrode rated for a maximum anode dissipation of 7.5W per section and suitable for use at frequencies up to 250Mc/s.

This data should be read in conjunction with GENERAL OPERATIONAL RECOMMENDATIONS — TRANSMITTING VALVES included in this volume of the handbook.

CATHODE Indirectly heated for series or parallel operation.

	Series	Parallel	
V_h	12.6	6.3	V
I_h	0.8	1.6	A

MOUNTING POSITION

Any

CAPACITANCES (each section)

C_{a-g1}	<0.07	pF
C_{1n}	8.0	pF
C_{out}	3.8	pF
* C_{g2-k} (approx.)	65	pF

*Including capacitor connected internally between g_2 and k .

CHARACTERISTICS (each section, measured at $I_a = 30mA$)

g_m	3.0	mA/V
$ Z_{g1-g2} $	6.5	

COOLING Natural cooling

Maximum bulb temperature	200	°C
Maximum temperature of seals	180	°C

OPERATING CONDITIONS AS PUSH-PULL R.F. POWER AMPLIFIER OR OSCILLATOR (CLASS "C" TELEGRAPHY OR F.M. TELEPHONY)

Limiting values (absolute ratings)

V_a max. ($f = 200Mc/s$)	750	V
V_a max. ($f = 250Mc/s$)	670	V
P_a max.	2×7.5	W
V_{g2} max.	250	V
P_{g2} max.	5.0	W
I_k max.	2×55	mA
$I_{k(pk)}$ max.	2×260	mA
V_{g1} max.	-175	V
I_{g1} max.	2×3.0	mA
R_{g1-k} max. (each section)	50	k Ω
V_{h-k} max.	100	V

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Typical operating conditions

f	200	200	250	Mc/s
V _a	500	750	500	V
V _{g2}	200	200	200	V
V _{g1}	-65	-65	-65	V
I _a	2 × 36	2 × 24	2 × 32	mA
I _{g2}	14	15	12	mA
I _{g1} (approx.)	2 × 1.3	2 × 1.4	2 × 0.9	mA
V _{in(g1-g1)pk}	150	150	140	V
P _{load(driver)}	500	600	800	mW
P _a	2 × 5.0	2 × 5.0	2 × 7.0	W
P _{out}	26	26	18	W
η	72	72	56	%
P _{load}	21	21	14.5	W

OPERATING CONDITIONS AS ANODE AND SCREEN-GRID MODULATED PUSH-PULL R.F. POWER AMPLIFIER (CLASS "C" TELEPHONY)

Limiting values (carrier condition for modulation factor of 1)
(absolute ratings)

V _a max. (f = 200Mc/s)	600	V
V _a max. (f = 250Mc/s)	530	V
P _a max.	2 × 5.0	W
V _{g2} max.	250	V
P _{g2} max.	3.4	W
I _k max.	2 × 50	mA
I _{k(pk)} max.	2 × 400	mA
V _{g1} max.	-175	V
I _{g1} max.	2 × 3.0	mA
R _{g1-k} max. (each section)	50	kΩ
V _{h-k} max.	100	V

Typical operating conditions

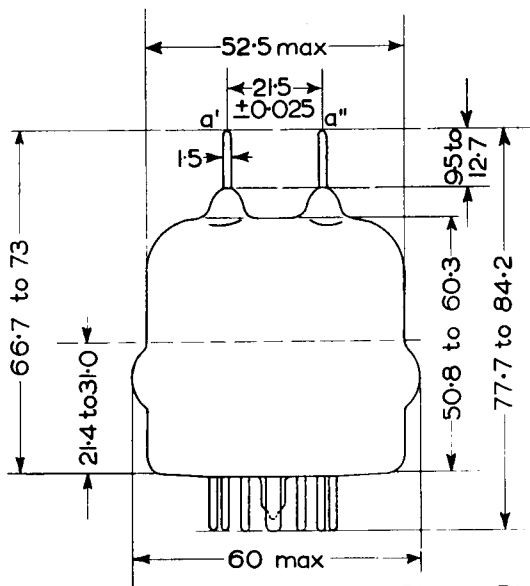
f	200	200	Mc/s
V _a	425	600	V
V _{g2}	200	200	V
V _{g1}	-60	-65	V
I _a	2 × 26	2 × 18	mA
I _{g2}	16	16	mA
I _{g1} (approx.)	2 × 1.2	2 × 1.3	mA
V _{in(g1-g1) pk}	140	150	V
P _{load(driver)}	500	500	mW
P _a	2 × 3.0	2 × 2.3	W
P _{out}	16	17	W
η	72	79	%
P _{load}	13	14	W

For 100% modulation

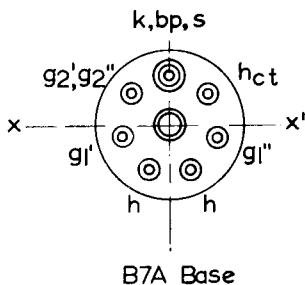
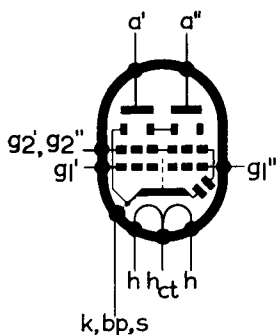
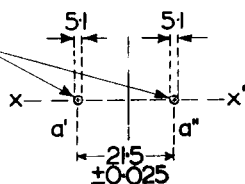
P _{mod}	12.5	12.5	W
V _{g2(pk)}	140	140	V

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Location of
anode pins
within circles

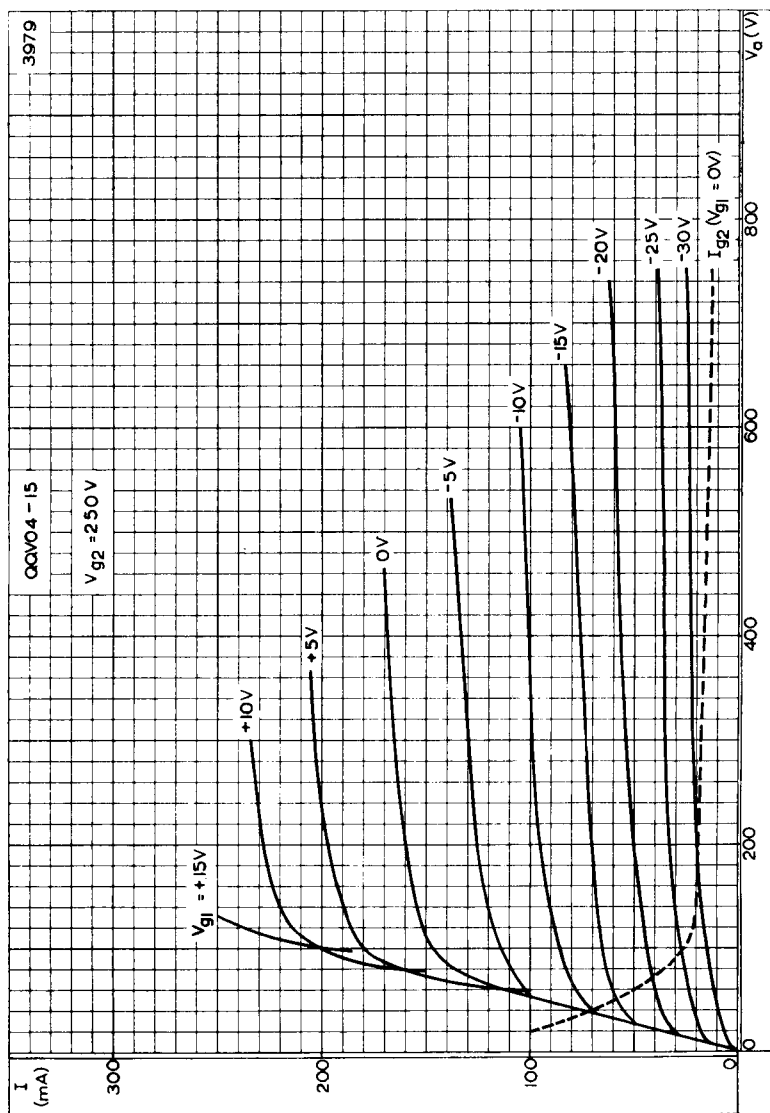


All dimensions in mm

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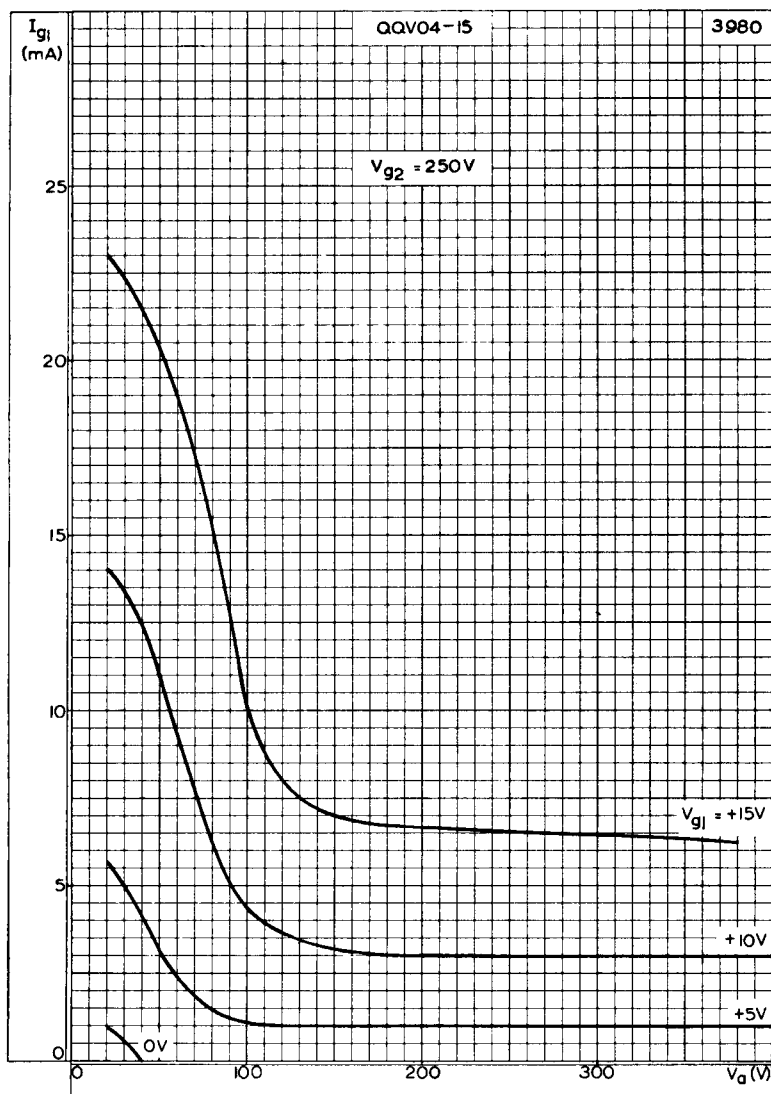


ANODE CURRENT PLOTTED AGAINST ANODE VOLTAGE

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CONTROL-GRID CURRENT PLOTTED AGAINST ANODE VOLTAGE