

DOUBLE TETRODE

Application: U.H.F. amplifier, frequency trebler
and oscillator.

Power output: 7W continuous rating.

Frequency: 960Mc/s at maximum ratings.

Construction: Glass, natural cooling.

QQV04-16

PRELIMINARY DATA

This data should be read in conjunction with GENERAL OPERATIONAL
RECOMMENDATIONS – TRANSMITTING VALVES which precede this
section of the handbook.

CATHODE

Indirectly heated, oxide coated. The heater is centre-tapped and the two
sections may be operated in series or parallel.

	Series	Parallel	
$*V_h$	12.6	6.3	V
I_h	300	600	mA

*The heater has been designed to accept temporary fluctuations of $\pm 10\%$.

MOUNTING POSITION

Any

CAPACITANCES

C_{a-g1} (each section)	145	mpF
C_{in} (two sections in push-pull)	4.5	pF
C_{out} (two sections in push-pull)	1.35	pF

CHARACTERISTICS (each section)

V_a	350	V
V_{g2}	250	V
I_a	25	mA
g_m	10.5	mA/V
μ_{g1-g2}	26	

COOLING

Radiation and convection

T_{bulb} max.	220	$^{\circ}\text{C}$
T_{pins} max.	220	$^{\circ}\text{C}$

WEIGHT

Valve only	{ 1.2	oz
	{ 35	g
Shipping weight	{ 1.9	oz
	{ 55	g

ACCESSORIES

Base socket assembly B8.700.71

CLASS "C" TELEGRAPHY OR F.M. TELEPHONY

Limiting values (absolute ratings)	C.C.S.	I.C.A.S.	
f max.	960	960	Mc/s
V _a max.	400	400	V
I _a max.	2 × 45	2 × 50	mA
p _a max.	2 × 8.0	2 × 10	W
V _{g2} max.	225	225	V
p _{g2} max.	2 × 1.5	2 × 1.75	W
I _{g1} max.	2 × 4.0	2 × 5.0	mA
-V _{g1} max.	100	100	V

Operating conditions for push-pull amplifier

f	960	960	Mc/s
V _a	250*	250	V
V _{g2}	160	170	V
V _{g1}	-15	-15	V
I _a	2 × 35	2 × 40	mA
I _{g2}	15	15	mA
I _{g1}	2 × 750	2 × 750	μA
P _{load} (driver)	1.4	1.4	W
p _a	2 × 5.4	2 × 5.4	W
P _{out}	7.0	8.0	W
η _a	40	40	%
P _{load}	4.0	5.0	W
η _{transfer}	57	62.5	%

*Adjust V_{g2} until I_a = 2 × 35mA at P_{out} max.

PUSH-PULL FREQUENCY TREBLER

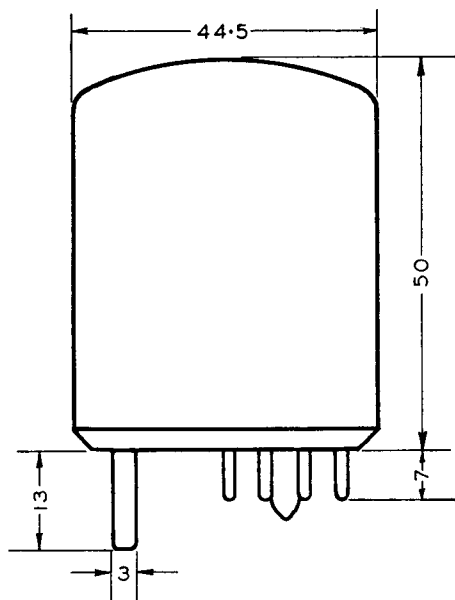
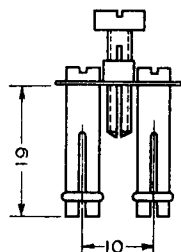
Limiting values (absolute ratings)	C.C.S.	I.C.A.S.	
f max.	960	960	Mc/s
V _a max.	400	400	V
I _a max.	2 × 40	2 × 40	mA
p _a max.	2 × 8.0	2 × 10	W
V _{g2} max.	225	250	V
p _{g2} max.	2 × 1.5	2 × 1.75	W
I _{g1} max.	2 × 4.0	2 × 5.0	mA
-V _{g1} max.	100	100	V

Operating conditions

f _{out}	960	960	Mc/s
V _a	250	250	V
V _{g2}	150	170	V
I _a	2 × 37.5	2 × 40	mA
I _{g2}	15	16	mA
I _{g1}	2 × 2.25	2 × 2.25	mA
P _{load} (driver)	3.0	3.0	W
p _a	2 × 8.0	2 × 8.5	W
P _{out}	2.75	3.0	W
η _a	14.7	15	%
P _{load}	1.5	1.8	W
η _{transfer}	54	60	%

DIMENSIONS

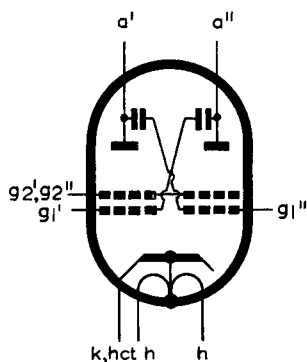
Maximum overall length	63	mm
Maximum seated height	50	mm
Maximum diameter	44.5	mm



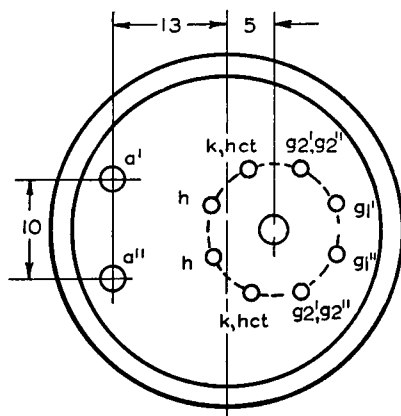
Typical anode connector
at $f = 960\text{Mc/s}$

All dimensions in mm

6697

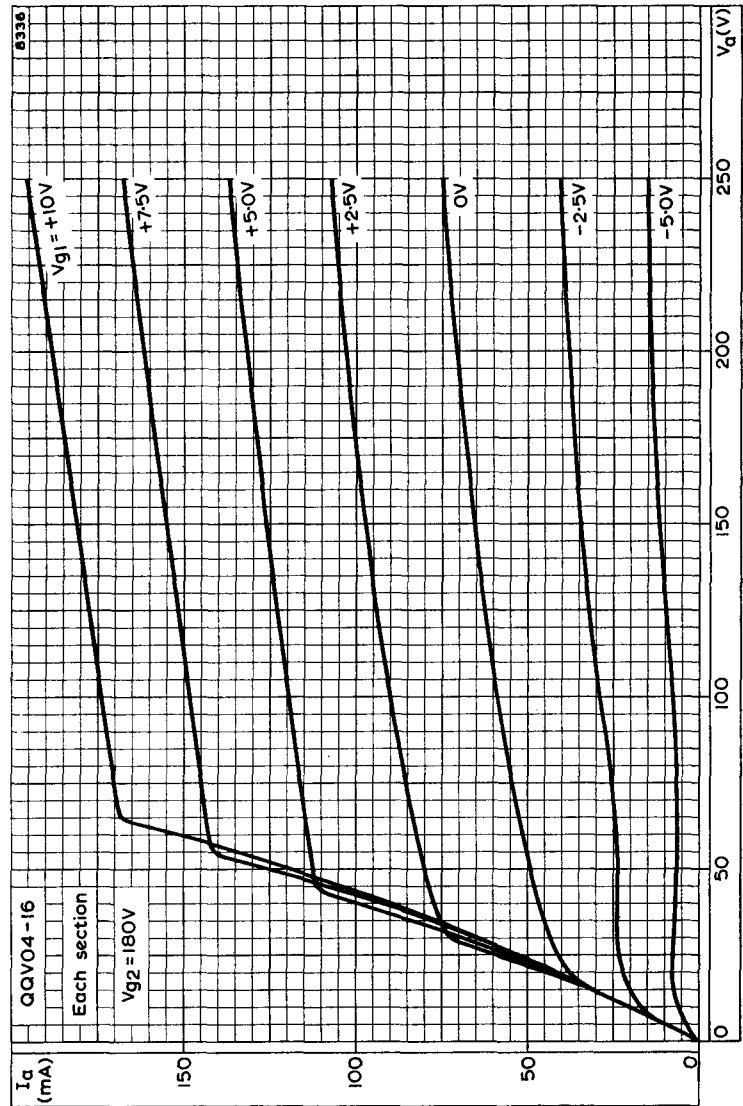


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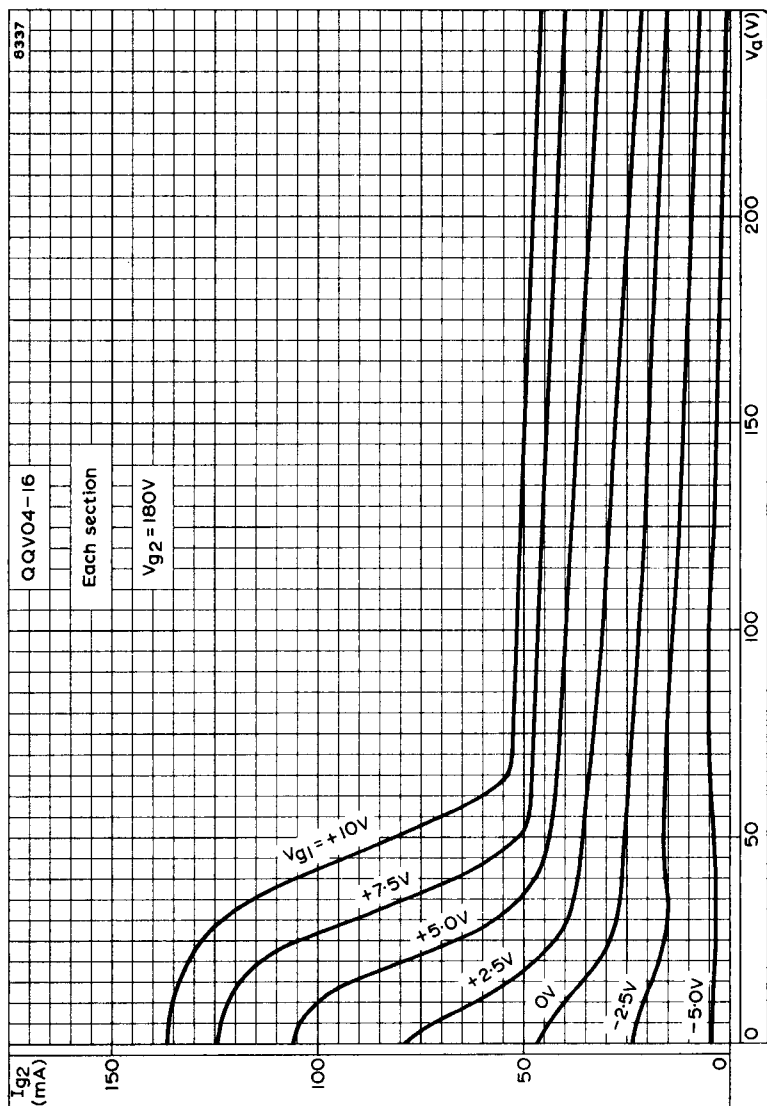


Loctal base with
separate anode pins

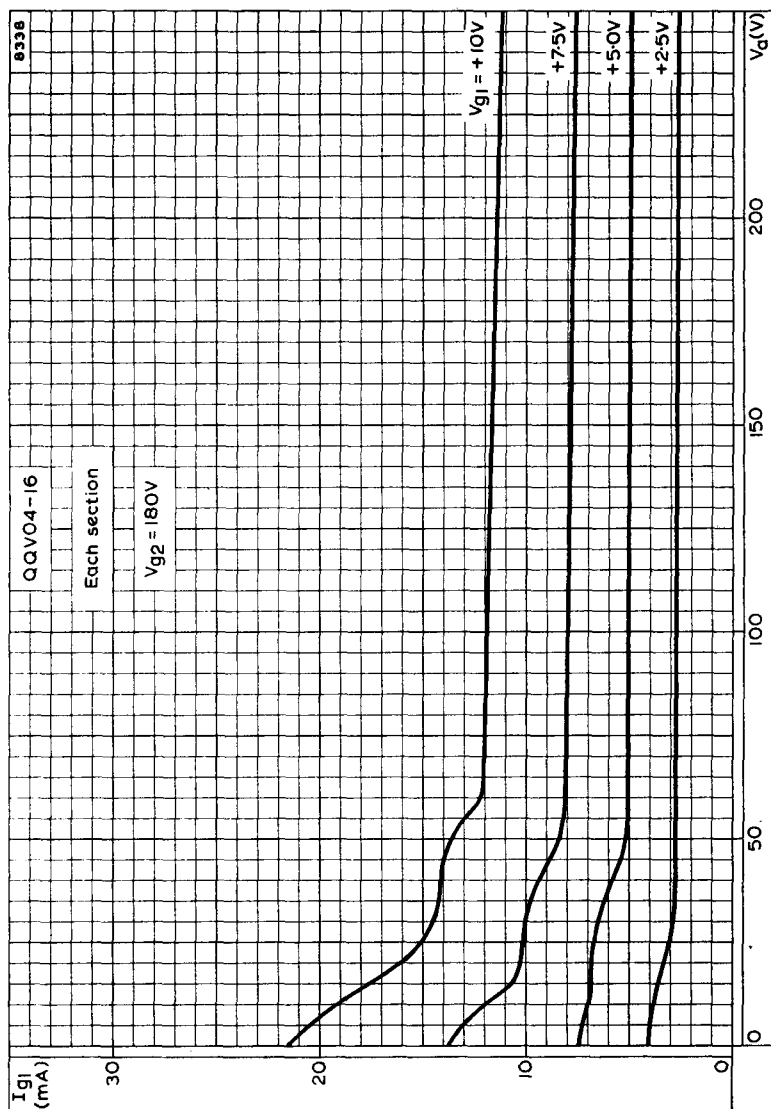
All dimensions in mm



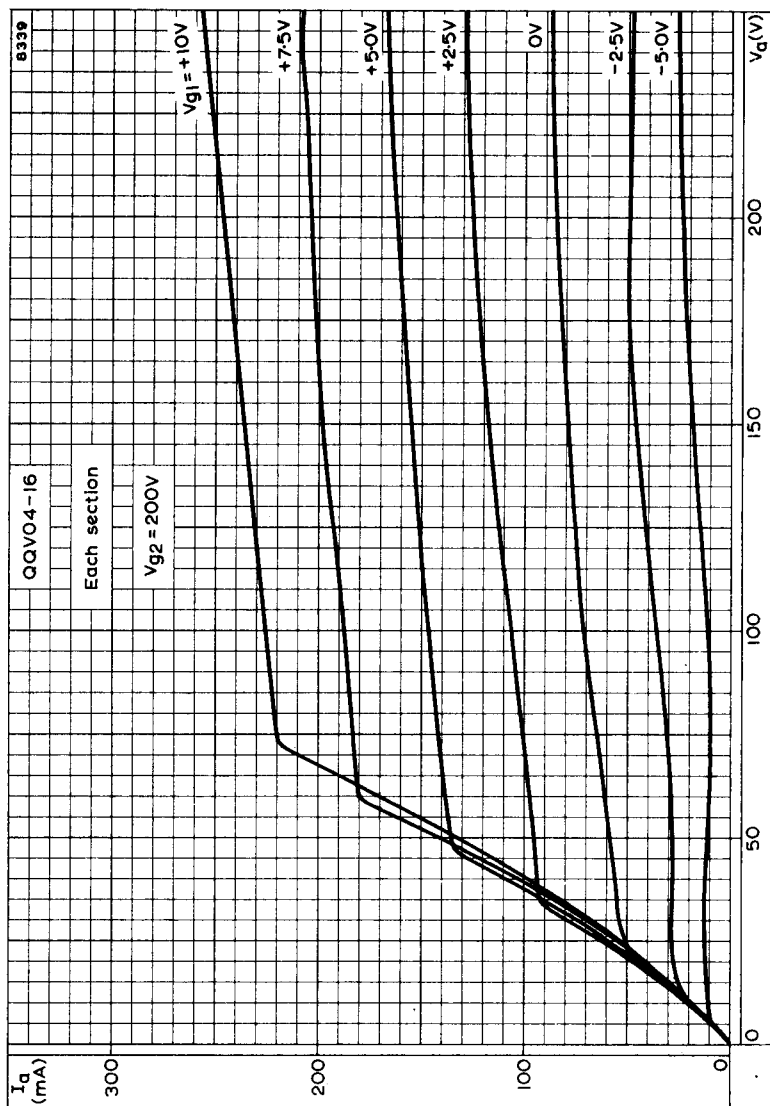
ANODE CURRENT PLOTTED AGAINST ANODE VOLTAGE
WITH CONTROL-GRID VOLTAGE AS PARAMETER. $V_{g2} = 180V$



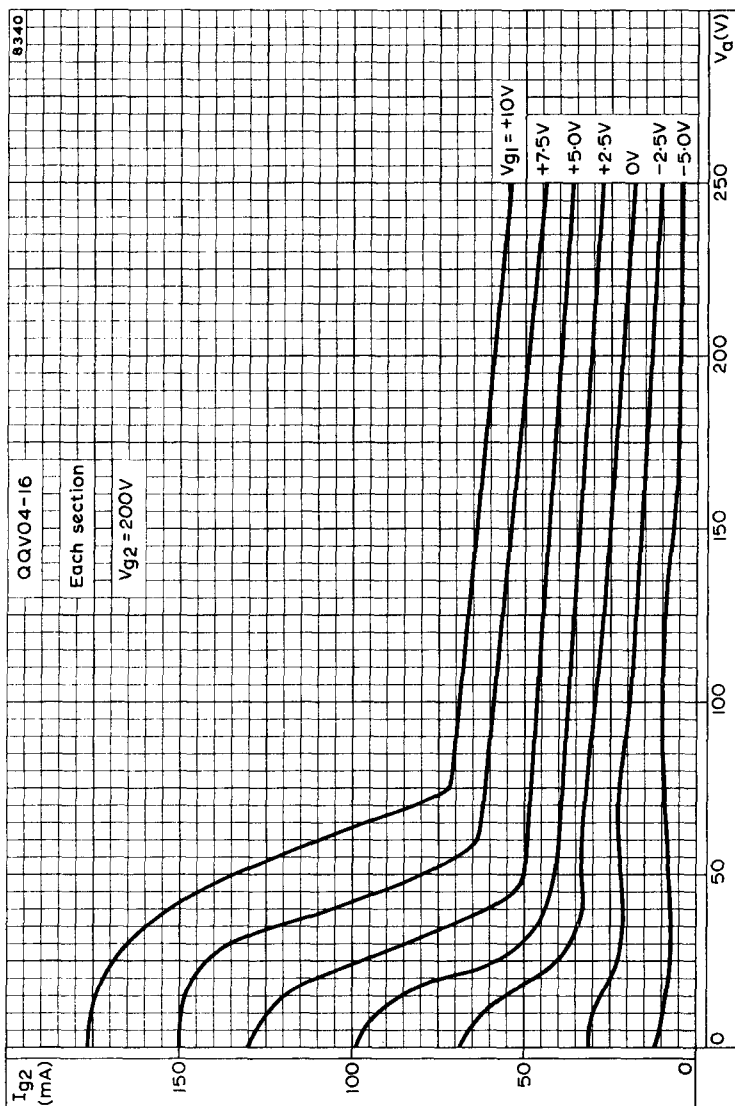
SCREEN-GRID CURRENT PLOTTED AGAINST ANODE VOLTAGE
WITH CONTROL-GRID VOLTAGE AS PARAMETER. $V_{g2} = 180V$



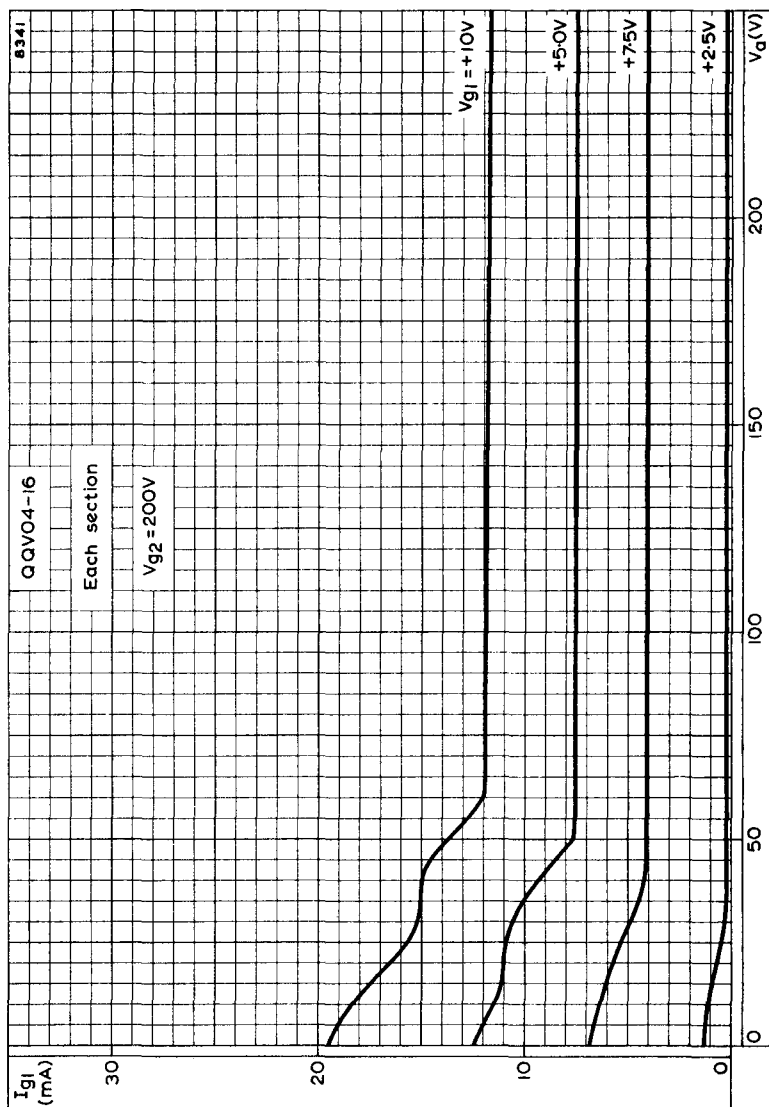
CONTROL-GRID CURRENT PLOTTED AGAINST ANODE VOLTAGE
WITH CONTROL-GRID VOLTAGE AS PARAMETER. $V_{g2} = 180V$



ANODE CURRENT PLOTTED AGAINST ANODE VOLTAGE
WITH CONTROL-GRID VOLTAGE AS PARAMETER. $V_{g2} = 200V$



SCREEN-GRID CURRENT PLOTTED AGAINST ANODE VOLTAGE
WITH CONTROL-GRID VOLTAGE AS PARAMETER. $V_{g2} = 200V$



CONTROL-GRID CURRENT PLOTTED AGAINST ANODE VOLTAGE
WITH CONTROL-GRID VOLTAGE AS PARAMETER. $V_{g2} = 200V$