

4 VALVE DATA PREFERRED TYPES

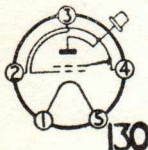
H TRANSMITTING VALVES AND MERCURY VAPOUR RECTIFIERS

QY3-125 OPERATING CONDITIONS FOR TWO VALVES IN (contd.) PUSH-PULL AS L.F. POWER AMPLIFIER OR CLASS "B" MODULATOR.

(With I_{g1})				
V_a	1,500	2,000	2,500	V
V_{g2}	350	350	350	V
V_{g1}	-41	-45	-43	V
I_a (o)	2×45	2×40	2×50	mA
I_a max. sig.	2×200	2×150	2×130	mA
I_{g2} max. sig.	2×19	2×10	2×8	mA
I_{g1}	2×18	2×15	2×12	mA
V_{in} (p.k.)	2×145	2×110	2×95	V
P_{g1}	2×2.6	2×1.6	2×1.2	W
P_{g2}	2×6.7	2×3.5	2×2.8	W
P_{out}	350	350	400	W
R_{a-a}	7,000	13,500	22,000	Ω
η	58	58	61	%

CIRCUIT NOTES.

1. The R.F. circuit returns must be brought to the filament connection on Pin No. 1.
2. To ensure equal distribution of the currents through the seals the g_2 leads should be strapped together at the valve holder, and the circuit connections joined to the midpoint of the strap. This should not be allowed to impair the free flotation of individual contacts.



BASE :
MVH18

DIMENSIONS :
L=130 mm
D=62 mm

QQV 04-20

Twin beam tetrode with a maximum rated dissipation of 10 watts at each anode. It is primarily intended for use as a push-pull R.F. power amplifier or oscillator at frequencies up to 200 Mc/s. Arrangements should be made to earth the metal base of the valve by means of spring clips or by some alternative method. The cathode is indirectly heated with centre tapped heater for series or parallel connection.

HEATER

	Series	Parallel	
V_h	12.6	6.3	V
I_h	0.8	1.6	A
Heating time 20 secs.			

MOUNTING POSITION

Vertical—base down Horizontal—plane of anodes vertical



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CAPACITANCES

Each section

C_{in}	14	$\mu\mu F$
C_{out}	8.5	$\mu\mu F$
C_{a-g1}	<0.2	$\mu\mu F$

Between sections

C_{a-b}	0.8	$\mu\mu F$
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CHARACTERISTICS

At $V_a=400 V$ $V_{g2}=200 V$ $I_a=25 mA$

g_m	4	mA/V
μ_{g1-g2}	6.5	

LIMITING VALUES

V_a max.	400	V
V_a (pk) max.	1,400	V
V_{g2} max.	225	V
$V_{g2(b)}$ max.	600	V
V_{g1} max.	-175	V
I_k max.	2×100	mA
* I_k (pk) max.	350	mA
I_{g2} max.	2×18	mA
I_{g1} max.	2×7	mA
* I_{g1} (pk) max.	20	mA
P_a max.	2×10	W
P_{g2} max.	2×2.25	W
V_{h-k} max.	100	V
* R_{g1-k} max.	30	K Ω

*Per section

Operating frequency (Mc/s)	Max. anode voltage (V)	Max. anode input power (W)
125	400	60
175	280	42
200	240	36

OPERATING CONDITIONS

As push-pull Class "C" R.F. power amplifier and oscillator

V_a	400	V
* V_{g2}	145	V
R_{g2}	15	K Ω
** V_{g1}	-45	V
R_{g1}	10	K Ω
R_k	260	Ω
I_a	2×75	mA
I_{g2}	2×8.5	mA
I_{g1}	2×2.25	mA
V_{in} (pk)	2×58	V
P_{drive}	0.23	W
P_{out}	44	W

*May be obtained from a separate supply or from the anode supply through series resistor of value shown, in which case provision must be made to ensure that $V_{g2(b)}$ does not exceed 600 V.

**May be obtained from a separate supply or by a grid or cathode resistor of value shown, or by a combination of these methods.



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QQV
04-20

(contd.)

OPERATING CONDITIONS (contd.)

As push-pull R.F. power amplifier, Class "B" telephony

V_a	400	V
V_{g2}	125	V
V_{g1}	-25	V
I_a	2×37.5	mA
I_{g2}	2×2.0	mA
$V_{in(pk)}$	2×25	V
P_{drive}	0.8	W
P_{out}	10.5	W

As push-pull grid-modulated Class "C" R.F. power amplifier

V_a	400	V
V_{g2}	125	V
V_{g1}	-40	V
I_a	2×37.5	mA
I_{g2}	2×1.5	mA
I_{g1}	2×0.2	mA
$V_{in(pk)}$ R.F.	2×40	V
$V_{mod(pk)}$ A.F.	19	V
P_{drive}	0.32	W
P_{out}	10.5	W

As push-pull anode-modulated Class "C" R.F. power amplifier

V_a	325	V
V_{g2}	165	V
R_{g2}	10	K Ω
V_{g1}	-45	V
R_{g1}	11.25	K Ω
I_a	2×62	mA
I_{g2}	2×8	mA
I_{g1}	2×2	mA
$V_{in(pk)}$	2×56	V
P_{drive}	0.2	W
P_{out}	30	W

†For 100% modulation.

*May be obtained from a fixed supply or by a grid resistor of value shown.

**May be obtained from a separate supply or by a grid or cathode resistor of value shown, or by a combination of these methods.

As Class "AB₂" A.F. power amplifier or modulator

V_a	400	V
V_{g2}	125	V
V_{g1}	-15	V
I_{a0}	2×10	mA
I_a (max. sig.)	2×75	mA
I_{g2} (max. sig.)	2×16	mA
$V_{in(pk)}$	2×30	V
R_{a-a}	6.2	K Ω
* P_{drive}	0.36	W
P_{out}	42	W

*The effective resistance in the grid circuit should be below 500 Ω and the effective impedance should not exceed 700 Ω at the highest response frequency required.

BASE :
Octal

DIMENSIONS :
L=115 mm
D=59 mm

