



VARIABLE-MU R.F. PENTODE

A variable-mu R.F. pentode primarily designed for use in automatic gain controlled I.F. amplifiers of television receivers.

PHYSICAL DETAILS.

Base	...	...	B9A—All Glass.
Max. Overall Length	...	...	61.7 mm. ($2\frac{7}{8}$ in.).
Max. Seated Height	...	...	54.7 mm. ($2\frac{1}{2}$ in.).
Max. Diameter	...	...	22.2 mm. ($\frac{7}{8}$ in.).
Mounting Position	...	...	Any.

BASE CONNECTIONS.

Pin 1—Cathode.	Pin 5—Heater.
Pin 2—Control Grid (g_1).	Pin 6—Shield.
Pin 3—Cathode.	Pin 7—Anode.
Pin 4—Heater.	Pin 8—Screen Grid (g_2).
	Pin 9—Suppressor Grid (g_3).

HEATER.

Heater Voltage	...	...	6.3 volts.
Heater Current	...	...	0.3 amp.

RATINGS.

Max. H.T. Supply Voltage	...	550 volts.
Max. Anode Voltage	...	250 volts.
Max. Screen Voltage	...	250 volts.
Max. Anode Dissipation	...	2.5 watts.
Max. Screen Grid Dissipation	...	0.65 watts.
Max. Cathode Current	...	20 mA.
Max. Neg. V_{g_1} (pk)	...	-50 volts.
Max. V_{h-k}	...	150 volts.
Max. R_{g_1-k}	...	1 M Ω
Max. R_{g_3-k}	...	50 k Ω
Max. R_{h-k}	...	20 k Ω

CHARACTERISTICS.

Anode Voltage	...	170	200	230	volts.
Screen Grid Voltage	...	90	90	90	volts.
Suppressor Grid Voltage	...	0	0	0	volts.
Grid Voltage	...	-1.8	-2.0	-2.1	volts.
Anode Current	...	14	12	10.5	mA.
Screen Grid Current	...	5.3	4.5	3.6	mA.
Mutual Conductance	...	14	12.5	10.6	mA/V.
Anode Impedance	...	350	500	640	k Ω
Input Damping (at 50 Mc/s.)	...	11.5	13	15	k Ω

TYPICAL OPERATION.*

$V_a = V_b$	...	170	190	230	volts.
V_{g_3}	...	0	0	0	volts.
R_{g_2}	...	15	22	39	k Ω
V_{g_1}	...	-1.9	-2.0	-2.1	volts.
R_{h-k}	...	100	120	150	ohms.
I_a	...	13.9	11.7	10.5	mA.
I_{g_2}	...	5.2	4.3	3.6	mA.
g_m	...	14.0	12.4	10.6	mA/V.
r_a	...	370	480	640	k Ω
g_m at $V_{g_1} = -15...$	...	0.1	0.26	0.37	mA/V.

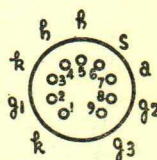
CAPACITANCES.

C_{in}	...	...	...	9.5	pF.
C_{out}	...	...	...	3.0	pF.
C_{a-g_1}	...	...	...	<0.0055	pF.
$C_{g_1-g_2}$	...	...	...	2.8	pF.

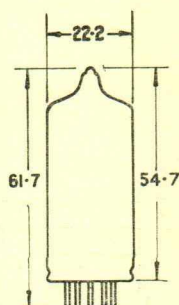
*Auto-bias operation is recommended.

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Base
Connections
Underside View
of Base



All dimensions
shown are in
millimetres
(max.).

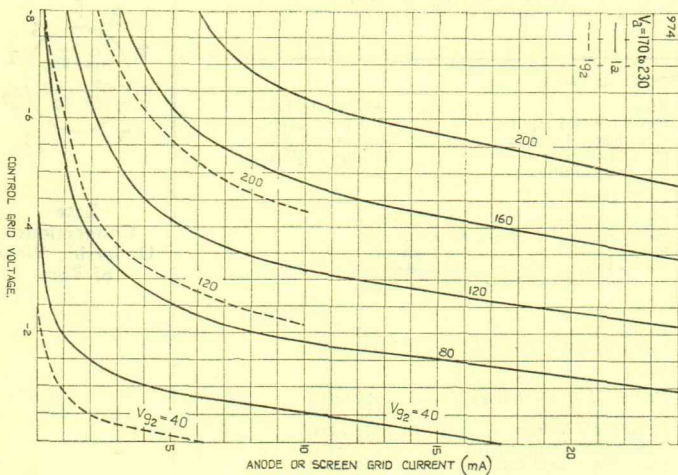


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TYPICAL I_a and I_{g2} CHARACTERISTICS.



TYPICAL CHARACTERISTICS.
at $V_a = V_{g2} = 200V$, $-R_{g2} = 24 k\Omega$.

