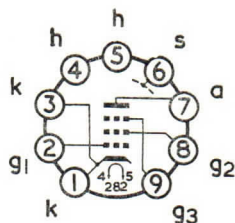


### VARIABLE-MU R.F. PENTODE



B9A Base

### GENERAL

This valve is a variable-mu frame grid R.F. pentode for use as an A.G.C. controlled, high gain I.F. amplifier in A.C. or A.C./D.C. television receivers.

|                |       |     |   |
|----------------|-------|-----|---|
| Heater Voltage | $V_h$ | 6.3 | V |
| Heater Current | $I_h$ | 0.3 | A |

### RATINGS

|                                            |                                    |      |    |
|--------------------------------------------|------------------------------------|------|----|
| Maximum Anode Dissipation                  | $P_a(\text{max})$                  | 2.5  | W  |
| Maximum Screen Grid Dissipation            | $P_{g2}(\text{max})$               | 0.65 | W  |
| Maximum Anode Voltage                      | $V_a(\text{max})$                  | 250  | V  |
| Maximum Screen Grid Voltage                | $V_{g2}(\text{max})$               | 250  | V  |
| Maximum Heater to Cathode Voltage (R.M.S.) | $V_{h-k(\text{r.m.s.})\text{max}}$ | 150  | V  |
| Maximum Control Grid to Cathode Resistance | $R_{g1-k}(\text{max})$             | 1    | MΩ |

### INTER-ELECTRODE CAPACITANCES

|                  |             | *        | †        | ‡        |    |
|------------------|-------------|----------|----------|----------|----|
| Input            | $C_{in}$    | 9.5      | 9.9      | 11.0     | pF |
| Output           | $C_{out}$   | 3.0      | 3.4      | 3.5      | pF |
| Grid 1 to Anode  | $C_{g1-a}$  | < 0.0055 | < 0.0065 | < 0.0075 | pF |
| Grid 1 to Grid 2 | $C_{g1-g2}$ | 2.8      | 2.8      | 2.8      | pF |

\* In fully shielded socket without can.

† With holder capacitance balanced out. (Holder as below.)

‡ Total capacitance including B9A ceramic holder without skirt or radial shield. (Plessey holder type CP180900/1.)

### CHARACTERISTICS AND TYPICAL OPERATION

|                                                          |                   |      |      |      |      |      |
|----------------------------------------------------------|-------------------|------|------|------|------|------|
| Supply Voltage                                           | $V_b$             | —    | —    | —    | 200  | V    |
| Anode Voltage                                            | $V_a$             | 170  | 200  | 230  | 188  | V    |
| Screen Grid Voltage                                      | $V_{g2}$          | 90   | 90   | 90   | 92   | V    |
| Screen Grid Resistance                                   | $R_{g2}$          | —    | —    | —    | 24   | kΩ   |
| Self Bias Resistance                                     | $R_k$             | —    | —    | —    | 120  | Ω    |
| Grid Bias Voltage                                        | $V_{g1}$          | -1.8 | -2.0 | -2.1 | —    | V    |
| Anode Current                                            | $I_a$             | 14   | 12   | 10.5 | 12   | mA   |
| Screen Grid Current                                      | $I_{g2}$          | 5.3  | 4.5  | 3.6  | 4.5  | mA   |
| Mutual Conductance                                       | $g_m$             | 14   | 12.5 | 10.6 | 12.5 | mA/V |
| Valve Anode Resistance ( $\partial V_a / \partial I_a$ ) | $r_a$             | 350  | 500  | 650  | —    | kΩ   |
| Valve Input Resistance at 40 Mc/s                        | $r_{g1}$          | 11.6 | 13   | 15.3 | —    | kΩ   |
| Equivalent Grid Noise Resistance at 40 Mc/s              | $R_{eq}$          | —    | 490  | —    | —    | Ω    |
| Grid Voltage for $g_m/10$                                | $V_{g1}(g_m/10)$  | —    | —    | —    | -5.5 | V    |
| Grid Voltage for $g_m/100$                               | $V_{g1}(g_m/100)$ | —    | —    | —    | -19  | V    |

