



SP. 22

BATTERY SCREENED H.F. PENTODE

RATING.

Filament Voltage	...	...	...	...	...	...	2.0
Filament Current (Amp.)	...	...	...	...	...	...	0.1
Maximum Anode Voltage	...	...	...	...	...	...	150
Maximum Screen Voltage	...	...	...	...	...	...	150
*Mutual Conductance (mA/V)	...	...	...	...	...	...	1.7

*at $E_a=120$; $E_s=120$; $E_g=0$.

OPERATING CONDITIONS.

Anode Voltage	...	...	...	...	120	120	120
Screen Voltage	...	...	...	...	60	80	120
Grid Bias	...	...	...	...	0	0	1
Mutual Conductance (mA/V)	...	...	...	...	0.9	1.2	1.2
Anode Current (mA)	...	...	...	...	-55	-1.1	-1.1
Screen Current (mA)	...	...	...	...	-16	-35	-38
Anode A.C. Resistance (megohms)	...	...	...	...	2.7	1.35	1.35

INTER-ELECTRODE CAPACITIES.

*Anode to Earth	...	...	...	...	...	12.5 $\mu\mu\text{F}$
*Grid to Earth	...	...	...	...	...	7.75 $\mu\mu\text{F}$
Anode to Grid	...	...	...	...	...	0.0055 $\mu\mu\text{F}$

*" Earth " denotes the remaining earthy potential electrodes and metallising joined to cathode.

DIMENSIONS.

Maximum overall length	...	...	...	...	103 mm.
Maximum diameter	...	...	...	...	32 mm.

GENERAL.

The SP.22 is a screened H.F. Pentode for use as a fixed gain amplifier frequency changer, or detector in battery operated receivers. The characteristics of the valve are identical, except for the inter-electrode capacities, with those of the SP.210. The bulb is of small dimensions and metallised. The valve is fitted with a British Octal Base, the connections to which are given overleaf.

APPLICATION.

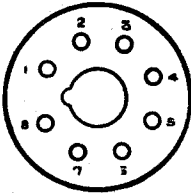
The SP.22 can be used as an H.F. or I.F. amplifier in circuits where the bias applied to the valves is fixed, or as a self-oscillating frequency changer with cathode injection. When used as an H.F. amplifier, an aerial control should be provided. When used as a detector with cumulative grid rectification, a screen voltage of 50-60 is recommended. This voltage may be obtained from a tap on the H.T. battery or preferably by means of a dropping resistance from the full H.T. supply. This reduces detector overloading to a great extent. A grid leak of 0.5 to 2.0 megohms should be used and the end should be returned to the positive L.T. terminal. Smooth reaction can best be obtained by returning the grid leak to a centre-tapped potentiometer across the filament supply.

To avoid instability, the metal coating should always be connected to earth.

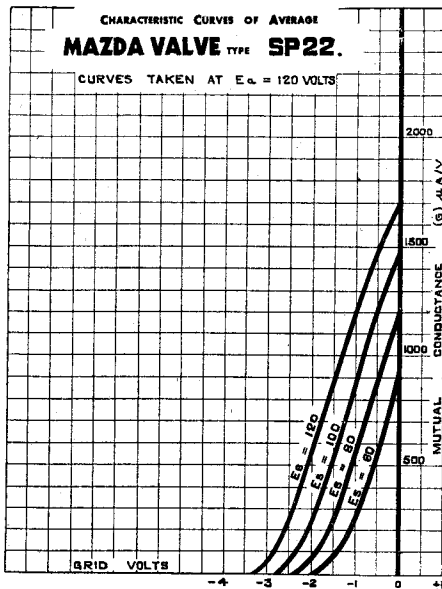
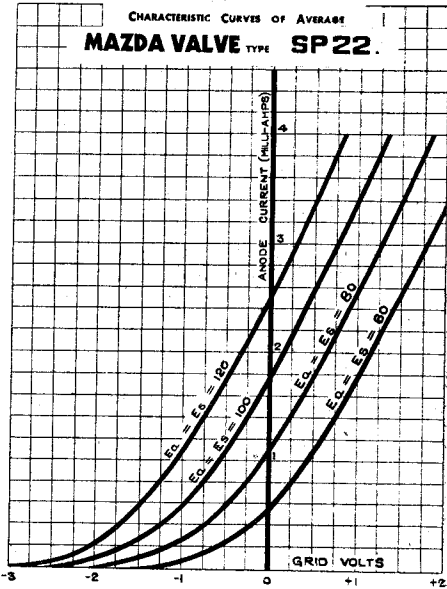


BASING.

- Pin No. 1. Filament.
 - 2. Omitted.
 - 3. Anode.
 - 4. Screen Grid.
 - 5. Suppressor Grid.
 - 6. Metal Coating.
 - 7. Omitted.
 - 8. Filament.
- Top Cap—Control Grid.



Viewed from the free end of the base.



Mazda Radio Valves are manufactured in Great Britain for the British Thomson-Houston Co., Ltd., London and Rugby.