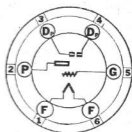


Sylvania

TYPE 1B5/25S

DUODIODE

TRIODE



CHARACTERISTICS

Filament Voltage DC	2.0 Volts
Filament Current	0.06 Ampere

Direct Interelectrode Capacitances (Triode Unit):

Grid to Plate	3.6 μf
Input	1.6 μf
Output	1.9 μf
Maximum Over-all Length	4 1/4"
Maximum Diameter	1 1/8"
Bulb	ST-12
Base—Small 6-Pin	6-M

Operating Conditions and Characteristics:

CLASS A AMPLIFIER (Triode Unit)

Filament Voltage	2.0 Volts
Plate Voltage	135 Volts Max.
Grid Voltage	-3 Volts
Plate Current	0.8 Ma.
Plate Resistance	35000 Ohms
Mutual Conductance	575 μmhos
Amplification Factor	20

CIRCUIT APPLICATION

Sylvania Type 1B5/25S is a 2-volt tube incorporating the duodiode triode structure. Since the introduction of this tube as Type 25S very desirable improvements have been made in its design, although the electrical characteristics remain practically unaltered. In its present form the diodes are located below the triode. The diode plates are cylindrical in form, each one encircling an end of the coated filament.

Type 1B5/25S will find wide application as a combined diode detector and triode audio amplifier and for securing the required voltage for automatic volume control. The independence of operation of the two diodes, as well as the triode unit, permits flexibility in circuit design.

For amplification, the triode may be employed in conventional circuit arrangements. This section should be resistance coupled to the diode, using an ordinary coupling condenser and a 1 megohm leak to -C.

Mention has already been made of the diode construction. It is evident that a difference of potential of about 2 volts exists between the cathode sections within the diodes due to the voltage drop along the filament. Whether or not this condition is utilized in the circuit design depends upon the method chosen for the diode plate return. Several important circuits will be described briefly.

If no delay action is desired only the diode plate surrounding the negative end of the filament is employed. The return for this plate is made to -A. The a-v-c voltage is then taken off in the conventional manner.

Where a-v-c delay is to be determined by the extent of the C bias the following arrangement is recommended: The diode around the positive end of the filament is utilized for detection, the diode plate return being made to +A. The other diode is then employed for a.v.c., with the return for this diode brought to -C.

If more delay action is desired than that furnished by the foregoing, the method suggested is to employ the diode at the negative end of the filament for detection, the return being made to -A. The other diode is then used for a.v.c., with the return made to -C. The a-v-c diode plate is therefore effectively biased about 2 volts greater than the C bias voltage due to the drop in potential along the filament.

Other diode circuit arrangements are possible. Variations from those outlined above may be found desirable, but their nature will depend upon the specific features of the rest of the receiver circuit.