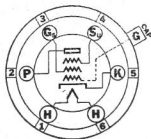


TYPE 6D6**RF PENTODE****CHARACTERISTICS**

Heater Voltage AC or DC	6.3 Volts
Heater Current	0.3 Ampere

Direct Interelectrode Capacitances:

Grid to Plate (with tube shield)	0.010 μf Max.
Input	4.7 μf
Output	6.5 μf
Maximum Over-all Length	4 $\frac{1}{8}$ "
Maximum Diameter	1 $\frac{1}{8}$ "
Bulb	ST-12
Cap	Small Metal
Base—Small 6-Pin	6-F

Operating Conditions and Characteristics:**AMPLIFIER (CLASS A)**

Heater Voltage	6.3	6.3 Volts
Plate Voltage	100	250 Volts Max.
Grid Voltage	-3	-3 Volts Min.
Screen Voltage	100	100 Volts Max.
Suppressor	Tie to Cathode	
Plate Current	8.0	8.2 Ma.
Screen Current	2.2	2.0 Ma.
Plate Resistance	0.25	0.8 Megohm
Mutual Conductance	1500	1600 μmhos
Mutual Conductance at -40 volts bias	10	10 μmhos
Amplification Factor	375	1280

Operating Conditions with Variable Bias:**FIRST DETECTOR IN SUPERHETERODYNE CIRCUIT**

Heater Voltage	6.3	6.3 Volts
Plate Voltage	100	250 Volts Max.
Grid Voltage	-10	-10 Volts Min.
Screen Voltage	100	100 Volts Max.
Suppressor	Tie to Cathode	

CIRCUIT APPLICATION

Sylvania 6D6 is an r-f pentode in which the suppressor is brought out to a separate base pin. The tube has a remote plate current "cut-off" and is suitable for operation as an amplifier and first detector in AC, AC-DC, DC and automobile service.

Radio Frequency Amplifier:

The 6D6 is especially applicable to radio receiver design because of its ability to reduce cross-modulation effects, its remote "cut-off" feature, and its flexible adaptability to circuit combinations and to receiver design.

The use of series resistors for obtaining satisfactory control of screen voltage from the plate supply or from some high intermediate voltage is permissible providing these sources do not exceed 250 volts.

The plate circuit load should be as high as is practicable. A tuned impedance load will be satisfactory for intermediate-frequency amplifiers operating at a fixed frequency. The gain per stage can be made as high as 200 or more with ordinary care in design. For other applications requiring uniform sensitivity over a wide band of radio frequencies coupling devices to meet the specific requirements will be necessary. If a grid coupling resistor is required, its maximum value should not exceed 1.0 megohm.

Modulator or First Detector:

Type 6D6 may be used to advantage as a superheterodyne first detector. It is capable of producing under the proper conditions of grid and local oscillator voltage, a gain in the first detector stage of about one third that which can be obtained in an intermediate-frequency amplifier stage. In addition, this gain can be controlled as in the case of the radio-frequency amplifier by varying the d-c grid bias either from a separate supply or from a variable resistor in the cathode circuit. This is a particularly desirable feature in receivers employing automatic volume control, because it enables a much lower threshold input to be received without loss of amplification and permits the reception of high input voltages without loss of control.