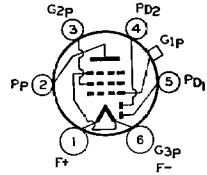


RCA-1F6

DUPLEX-DIODE PENTODE



The 1F6 is a duplex-diode pentode consisting of two diodes and a pentode in a single bulb. It is recommended for service as a combined detector, amplifier (radio-frequency, intermediate-frequency or audio-frequency), and automatic-volume-control tube in battery-operated receivers. For diode-detector considerations, refer to page 26.

CHARACTERISTICS

| | | |
|--|------------|------------------|
| FILAMENT VOLTAGE (D. C.) | 2.0 | Volts |
| FILAMENT CURRENT | 0.06 | Ampere |
| GRID-PENTODE PLATE CAPACITANCE (With shield-can) | 0.007 max. | $\mu\mu\text{f}$ |
| INPUT CAPACITANCE | 4 | $\mu\mu\text{f}$ |
| OUTPUT CAPACITANCE | 9 | $\mu\mu\text{f}$ |
| BULB | | ST-12 |
| CAP | | Small Metal |
| BASE | | Small 6-Pin |

Pentode Unit—As Class A R-F or I-F Amplifier

| | | |
|---------------------------------------|-----------|--------------|
| PLATE VOLTAGE | 180 max. | Volts |
| SCREEN VOLTAGE (Grid No. 2) | 67.5 max. | Volts |
| GRID VOLTAGE (Grid No. 1) | -1.5 | Volts |
| PLATE CURRENT | 2.0 | Milliamperes |
| SCREEN CURRENT | 0.6 | Milliampere |
| PLATE RESISTANCE (Approx.) | 1 | Megohm |
| AMPLIFICATION FACTOR (Approx.) | 650 | |
| TRANSCONDUCTANCE | 650 | Micromhos |
| TRANSCONDUCTANCE (At -12 volts bias)* | 15 | Micromhos |

Pentode Unit—As Resistance-Coupled A-F Amplifier

| | | | | | |
|-------------------------------|------|------|-------------|------|----------|
| PLATE-SUPPLY VOLTAGE | 135 | 135 | Volts | | |
| SCREEN-SUPPLY VOLTAGE | 135 | 135 | Volts | | |
| D-C GRID VOLTAGE | -1.0 | -2.0 | Volts | | |
| PEAK A-F GRID VOLTAGE | 0.64 | 0.62 | Volt | | |
| ZERO-SIGNAL D-C PLATE CURRENT | 0.42 | 0.42 | Milliampere | | |
| MAX-SIGNAL D-C PLATE CURRENT | 0.34 | 0.34 | Milliampere | | |
| PLATE RESISTOR | 0.25 | 0.25 | Megohm | | |
| SCREEN RESISTOR | 1 | 0.8 | Megohm | | |
| LOAD RESISTANCE | ** | ** | | | |
| GRID RESISTOR† | 1.0 | 0.5 | 1.0 | 0.5 | Megohm |
| VOLTAGE AMPLIFICATION | 48 | 43 | 46 | 41 | |
| TOTAL HARMONIC DISTORTION | 5 | 5 | 5 | 5 | Per cent |
| PEAK VOLTAGE OUTPUT | 30.8 | 28 | 28 | 25.2 | Volts |

** The load resistance across which the output voltage is developed, consists of the plate resistor, coupling condenser, and grid resistor of the following tube.

† For the following tube.

* For cathode current cut-off.

Diode Units

The two diodes and the pentode are independent of each other except for the common filament. The two diode units are placed at the negative end of the filament. Operation curves for diode units are given under type 6B7.

INSTALLATION AND APPLICATION

Refer to INSTALLATION of type 1A6. The 1F6 is similar in application to type 6B8. The maximum value of resistance in the grid circuit of this tube should not exceed 1.0 megohm for any condition of operation. A family of plate characteristic curves is given on page 61.



page

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**1F6
sheet**

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