



## RCA-5Z4

### Full-Wave High-Vacuum Rectifier

The 5Z4 is a full-wave rectifying tube of the metal type intended for use in d-c power-supply devices which operate from the a-c supply line.

#### TENTATIVE CHARACTERISTICS

|                                   |                   |              |
|-----------------------------------|-------------------|--------------|
| HEATER VOLTAGE                    | 5.0               | Volts        |
| HEATER CURRENT                    | 2.0               | Amperes      |
| A-C PLATE VOLTAGE PER PLATE (RMS) | 400 <i>max.</i>   | Volts        |
| PEAK INVERSE VOLTAGE              | 1100 <i>max.</i>  | Volts        |
| D-C OUTPUT CURRENT                | 125 <i>max.</i>   | Milliamperes |
| MAXIMUM OVERALL LENGTH            | 5-1/8"            |              |
| MAXIMUM DIAMETER                  | 1-5/16"           |              |
| BASE                              | Small Octal 5-Pin |              |

#### INSTALLATION

The base pins of the 5Z4 fit the five-contact octal-base socket for this pin arrangement (or the universal eight-contact socket) which should be installed to hold the tube in a vertical position with the base down. Provision should be made for free circulation of air around the tube since it becomes quite hot during operation.

The heater of the 5Z4 is designed to operate from the a-c line through a step-down transformer. The voltage applied to the heater should be the rated value of 5.0 volts under operating conditions and average line voltage.

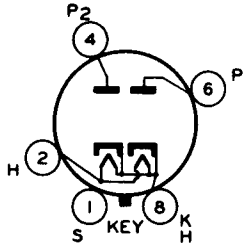
#### APPLICATION

As a *full-wave rectifier*, the 5Z4 may be operated with condenser-input or choke-input filter under conditions not to exceed the ratings given under CHARACTERISTICS.

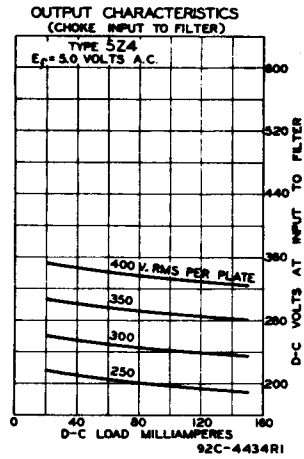
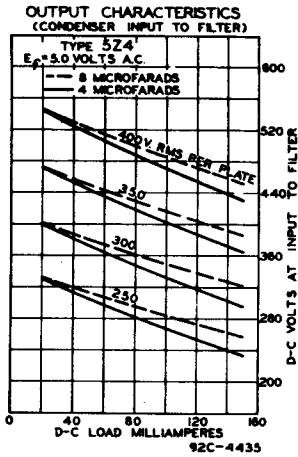
As a *half-wave rectifier*, two 5Z4's may be operated in a full-wave circuit with reasonable serviceability to deliver more d-c output current than can be obtained from one tube. For this use, the plates of each 5Z4 are tied together at the socket. The allowable voltage and load conditions per tube are the same as for full-wave service.

The *filter* may be of either the condenser-input or choke-input type. If an input condenser is used, consideration must be given to the instantaneous peak value of the a-c input voltage. The peak value is about 1.4 times the RMS value as measured by most a-c voltmeters. Filter condensers, therefore, especially the input condenser, should have a rating high enough to withstand the instantaneous peak value, if breakdown is to be avoided. When the input-choke method is used, the available d-c output voltage will be somewhat lower than

for the input-condenser method for a given a-c plate voltage. However, improved regulation, together with lower peak current, will be obtained.



BOTTOM VIEW





| <b>page</b> | <b>5Z4<br/>sheet</b> | <b>date</b> |
|-------------|----------------------|-------------|
| 1           | 1                    | 1935        |
| 2           | 2                    | 1935        |
| 3           | FP                   | 1999.09.12  |