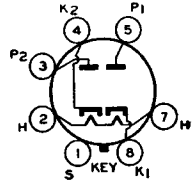
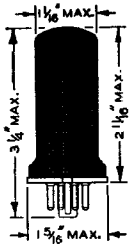


# RCA-25Z6

## RECTIFIER-DOUBLER



The 25Z6 is a full-wave, high-vacuum rectifier of the heater-cathode type for use in suitable circuits designed to supply d-c power from an a-c power line. This tube is well suited for "transformerless" receivers of either the "universal (a.c.-d.c.)" type or the "a-c operated" type. In "universal" receivers, the 25Z6 may be used as a half-wave rectifier, while in the "a-c operated" type, it may be used as a voltage doubler to provide about twice the d-c output voltage obtainable from the half-wave arrangement. For voltage-doubler considerations, see page 25.

### CHARACTERISTICS

HEATER VOLTAGE (A. C. or D. C.).....	25	Volts
HEATER CURRENT .....	0.3	Ampere
BASE .....	Small Wafer Octal 7-Pin	

#### As Voltage Doubler

A-C PLATE VOLTAGE PER PLATE (RMS).....	125 max.	Volts
PEAK PLATE CURRENT.....	500 max.	Milliamperes
D-C OUTPUT CURRENT.....	85 max.	Milliamperes

#### As Half-Wave Rectifier

A-C PLATE VOLTAGE PER PLATE (RMS)...	125 max.	250* max.	Volts
PEAK PLATE CURRENT PER PLATE.....	500 max.	500 max.	Milliamperes
D-C OUTPUT CURRENT PER PLATE.....	85 max.	85 max.	Milliamperes

\* An a-c input voltage greater than 125 volts requires the use of a series resistor or resistors. A 100-ohm resistor in each plate lead or a 100-ohm resistor common to both plates (giving somewhat poorer regulation) may be used.

### INSTALLATION

The base pins of the 25Z6 fit the standard octal socket which may be installed to hold the tube in any position.

The heater is designed to operate under the normal conditions of line voltage variation without materially affecting the performance or serviceability of this tube. The current in the heater circuit should be adjusted to 0.3 ampere for the normal supply voltage.

A filter of the condenser-input type is recommended for use with this tube in order to obtain a d-c output voltage as high as possible. A large input capacitance in the order of 16  $\mu$ f is desirable for half-wave rectifier service, while a higher value is advantageous for voltage-doubler circuits.

### APPLICATION

As a half-wave rectifier, the 25Z6 is designed for service in "transformerless" receivers of the "universal" type. In such service, the two plates are connected together at the socket in order to act as a single plate; likewise, the cathodes are connected as a unit. Conditions for this method of operation are given under CHARACTERISTICS. Typical output curves for several values of input condensers are shown on page 109. As a supplement to the curves with a-c input voltage, a dotted curve is included to show the output when the receiver is operated from a d-c power line.

As a voltage doubler, the 25Z6 is useful in "transformerless" receivers of the "a-c operated" type and is capable of supplying approximately twice the d-c output voltage of the half-wave circuit. In voltage-doubling service, the two diode units of the tube are arranged as shown in the voltage-doubler circuit, below. Circuits are given on the preceding page.



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