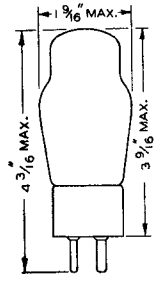
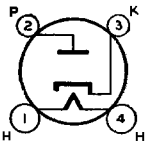


RCA-12Z3

HALF-WAVE RECTIFIER



The 12Z3 is a half-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. It is intended for use in "transformerless" receivers of the "universal" (a.c.-d.c.) type. The adaptability of the 12Z3 to such receivers is facilitated by the heater design which permits of convenient series operation with other tube types.

CHARACTERISTICS

HEATER VOLTAGE (A. C. or D. C.)	12.6	Volts
HEATER CURRENT	0.3	Ampere
A-C PLATE VOLTAGE (RMS)	250 *max.*	Volts
PEAK INVERSE VOLTAGE	700 *max.*	Volts
D-C OUTPUT CURRENT	60 *max.*	Milliamperes
BULB		ST-12
BASE		Small 4-Pin

INSTALLATION

The base pins of the 12Z3 fit the standard four-contact socket which may be installed to hold the tube in any position. Sufficient ventilation should be provided to circulate air freely around the tube to prevent overheating.

The 12.6-volt heater of the 12Z3 is designed to operate under the normal conditions of line-voltage variation without materially affecting the performance or serviceability of this tube. For operation of the 12Z3 in series with the heaters of other types having 0.3 ampere rating, the current in the heater circuit should be adjusted to 0.3 ampere for the normal supply voltage. The d-c potential difference between heater and cathode should be limited to 350 volts.

APPLICATION

As a half-wave rectifier, the 12Z3 is particularly useful in "transformerless" receivers of the "universal" type. Conditions for this service are given under CHARACTERISTICS.

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 μf is desirable. Typical output curves for several values of input condensers are shown in the accompanying diagram. As a supplement to the curves with an a-c input voltage, a dashed curve is included to show the output when the receiver is operated from a d-c power line.