



TYPE 967

MERCURY VAPOR GRID-CONTROLLED RECTIFIER ENGINEERING INFORMATION

GENERAL RATINGS

Number of Electrodes 3
 Filament Oxide Coated
 Voltage 2.5 volts
 Current 5.0 amps.
 Heating Time approx. 5 sec.

Single Phase—Half Wave Circuit—1 Tube
 Anode Voltage:
 Maximum Peak Inverse Voltage 2500 volts
 Maximum Peak Forward Voltage 2500 volts

Maximum Anode Current:
 Instantaneous per tube 2.0 amp.
 Average per tube 50 amp.
 Surge (should not last longer than 1 sec.) 20 amp.

Maximum Time of Average Anode Current 15 sec.

Maximum Grid Current:
 Instantaneous† 25 amp.
 Average 05 amp.

Single Phase—Full Wave Circuit—2 Tubes
 Anode Voltage:
 Maximum Peak Inverse Voltage per tube 7500 volts
 Maximum Peak Forward Voltage per tube 2500 volts

Tube Voltage Drop 10-24 volts

Approximate Starting Characteristics:

D-C Anode Voltage	Grid Voltage
30 volts	0 volts
100 volts	-2.25 volts
1000 volts	-5.0 volts

Temperature Limits:
 Condensed Mercury Temperature 40° to 80°C.
 Ambient Temperature Range 25° to 65°C.

Deionization Time—approximate 1000 microsec.

Ionization Time 10 microsec.

Dimensions:
 Maximum Length 6 5/8 inches
 Diameter 2 7/16 inches

Bulb S-19

Cap Medium Metal

Base Medium 4-pin Bayonet

Type of Cooling Air

* The filament should be allowed to come up to operating temperature before the plate voltage is applied.

† When operating at a frequency of less than 25 cycles, the maximum instantaneous current is reduced to twice the average current rating.

Return leads from anode and grid circuits should be connected to the center tap of the filament transformer winding when A-C is used on the filament. If D-C is used the return should be made to the negative filament terminal.

The deionization time of this type of tube is too long to allow it to be used with satisfaction for inverter circuits.

All mercury vapor or gas filled tubes require protective resistances in the grid and anode circuits to limit the current in these circuits to the rated values.

INSTALLATION

The base of the UNITED 967 is designed for mounting in a standard four-prong socket. The tube should be always mounted vertically with ample air space provided for ventilation. The ambient temperature should not be less than 25° C (77° F) and not more than 65° C (149° F) for the maximum peak inverse voltage. When the maximum ambient temperature exceeds these limits, forced ventilation should be used.

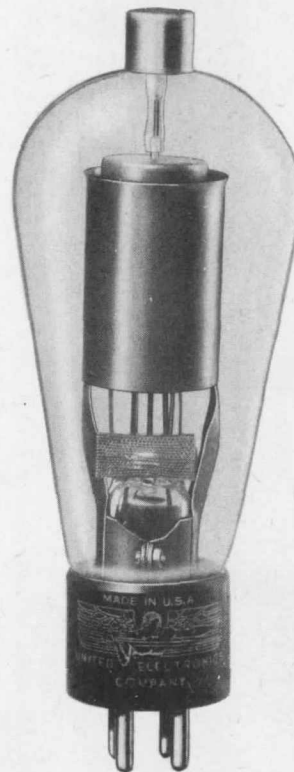
The filament of the 967 should be operated on alternating current at the rated value of 2.5 volts. The socket should make good contact to the tube pins and adequate current-carrying capacity leads to the secondary winding of the power transformer should be used. Operation of the filament at less than the rated voltage may result in a high interval voltage drop with subsequent loss of emission. A filament voltmeter should be connected permanently across the filament circuit at the socket terminals in order that the filament voltage can be maintained at 2.5 volts.

Because the mercury may be splashed on the tube elements due to shipment or handling, the filament of the 967 should be operated at rated voltage for approximately 3 minutes without plate voltage in order to distribute the mercury properly when the tube is first placed in service. The above procedure need not be repeated unless the tube is removed from the socket and during handling the mercury becomes splashed on the tube elements.

The condensed mercury temperature should be at least 25° C before the plate voltage is applied. This may be ordinarily accomplished by introducing a time lag of at least 30 seconds between the application of the filament and the plate voltages. In event that arc-back should occur when the plate voltage is applied, the pre-heating time of the filament should be increased.

When the 967 is subjected during operation to external high voltage or high frequency fields, shielding and R-F filter circuit should be provided.

All ratings given are for continuous service. Higher ratings are permissible for intermittent operation. Additional data will be furnished upon request.



This tube is used considerably in industrial control and regulator circuits.

