



HALF-WAVE MERCURY RECTIFIER ENGINEERING INFORMATION

GENERAL RATINGS

Number of Electrodes.....	2
Filament:	
Voltage	2.5 volts
Current	5.0 amperes
Type	Shielded Coated
Heating Time*.....	10 seconds
Condensed Mercury Temperature Range 25° to 60° C.	
Supply Frequency up to.....	150 cycles
Maximum Peak Inverse Voltage	10000 volts
Maximum Peak Plate Current.....	1.0 amp.
Average Plate Current.....	.25 amp.
Condensed Mercury Temperature Range 25° to 70° C.	
Supply Frequency up to.....	150 cycles
Maximum Peak Inverse Voltage	10000 volts
Maximum Peak Plate Current.....	2.0 amp.
Average Plate Current.....	.25 amp.
Condensed Mercury Temperature Range 25° to 70° C.	
Supply Frequency up to.....	1000 cycles
Maximum Peak Inverse Voltage.....	5000 volts
Maximum Peak Plate Current.....	1.0 amp.
Average Plate Current.....	.25 amp.
Approximate Tube Voltage Drop.....	10-15 volts
Maximum Overall Dimensions:	
Length	5½ inches
Diameter	1¾ inches
Bulb	T-14
Cap	Medium Metal
Base	Medium 4-Pin Bayonet
Type of Cooling.....	Air
Net Weight.....	2½ oz.

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

INSTALLATION

The base of the UNITED Z-225 is designed for mounting in a standard four-prong, bayonet type socket. The tube should always be mounted vertically with ample air space provided for ventilation. The condensed mercury temperature should not be less than 25° C. (77° F.) and not more than 60° C. (140° F.) to 70° C. (158° F.) depending on the peak inverse voltage used. When the maximum condensed mercury temperature exceeds these limits, forced ventilation should be used.

The filament of the Z-225 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 internal 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 5.0 volts. **Caution—the filament winding is at high potential.**

Because the mercury may be splashed on the tube elements due to shipment or handling, the filament of the Z-225 should be operated at rated voltage for approximately 15 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 should be at operating temperature before the plate voltage is applied. This may be ordinarily accomplished by introducing a time lag of at least 10 seconds between the application of the filament and the plate voltages. In the event that arc-back should occur when the plate voltage is applied, the pre-heating time of the filament should be increased.

When the Z-225 is subjected during operation to external high voltage or high frequency fields, shielding and r-f filter circuits should be provided.

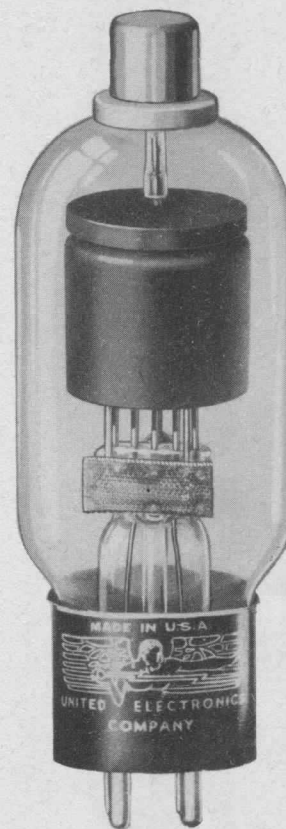
DESIGN AND CHARACTERISTIC FEATURES

UNITED type Z-225 mercury rectifiers are distinguished for their measured mercury content. In contrast with tubes into which mercury is "dumped", the UNITED Z-225 is entirely free of excess mercury. Casual examination of the Z-225 will reveal little or no mercury.

Type Z-225 is the exclusive solution for power supply design problems wherever space and weight factors are of importance. The use of the Z-225 instead of types 866-866A permit good engineering practice rather than space limitations to govern circuit selection.

Wherever 866-866A tubes are crowded and operating under poor temperature conditions, the use of UNITED type Z-225 is indicated. In such cases, the Z-225 permits a greater space for the free circulation of air and hence cooler operation.

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



TYPE Z-225

Occupies less than one-half the cubic space required for types 866-866A, overall clearance dimensions considered. See comparative dimensional drawings on reverse side.

Type Z-225 is another outstanding development of UNITED ELECTRONICS COMPANY—notable producer of mercury rectifiers.

