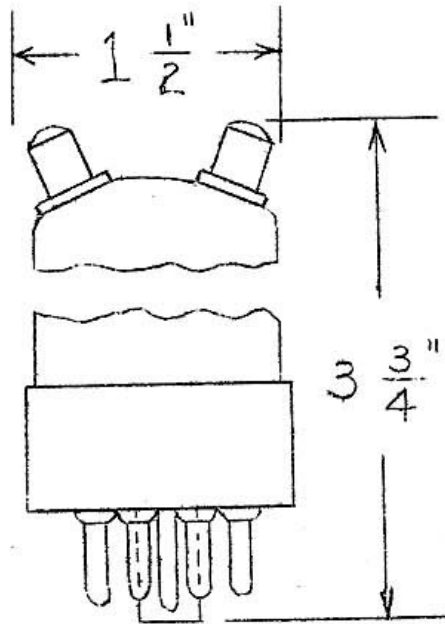


GENERAL DESCRIPTION

HYTRON U-H-F POWER TRIODE

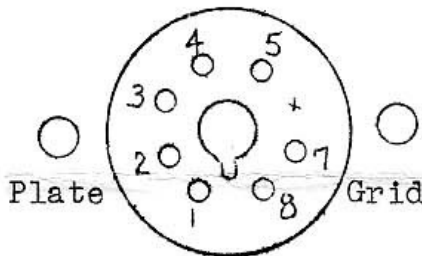


The HY75 is a medium-power triode designed specifically for highly efficient operation at frequencies from 50 to 300 megacycles. Short connection leads, small internal elements, low interelectrode capacitances produce unusually high plate circuit efficiency. Close spacing of elements reduces transit time to negligible value further increasing the efficiency of operation.

The filament of the HY75 is of thoriated-tungsten, wound in a spiral for greatest efficiency. A graphite anode permits a high plate dissipation from the tiny elements at a low temperature and prevents warping of the plate and hot spots. A pure tantalum vertical-bar grid is also used. This combination of elements provides cylindrical or fully symmetrical construction of the tube resulting in highest efficiency.

The HY75 has been designed for efficient operation at low voltages, thus reducing cost of associated parts.

Values given below are for continuous-service operation of one tube. Two tubes in push-pull will provide substantially higher efficiencies with a resultant increase in power output.



Bottom View

- 2 - Filament +
- 7 - Filament -

Electrical Characteristics of HY75

Filament	6.3 volts @ 2.75 A.
Plate voltage	450 max. volts
Plate current	100 max. ma.
Plate dissipation	15 max. watts
Mutual conductance	2300 umhos
Amplification factor	10

Typical Operating Characteristics

Oscillator and Class C R.F. Amplifier

DC Plate voltage	450 max. volts
DC Plate current	100 max. ma.
DC Plate input*	30 max. watts @ 224 mc.
	35 " " @ 120 mc.
	45 " " @ 60 mc.
DC Grid current	20 max. ma.
DC Grid voltage	-150 max. volts
Plate dissipation	15 max. watts

Operating Data For 1 $\frac{1}{4}$ Meters

DC Plate voltage	300	450 volts
DC Plate current	100	68 ma.
DC Grid Bias#	-60	-90 volts
DC Grid current*	15 ma.	15 ma.
Nominal R.F. power output*	15	15 watts

Plate Modulated Oscillator and Class C R.F. Amplifier

(Values below are for speech modulation only)

DC Plate voltage	450 max.	watts
DC Plate current	100 max.	ma.
DC Plate input†	24 max.	watts @ 224 mc.
	28 "	" @ 120 mc.
	36 "	" @ 60 mc.
DC Grid current	20 max.	ma.
DC Grid voltage	-150 max.	volts
Plate dissipation	12 max.	watts
(No modulation - rises to 15 watts when 100% speech modulated.)		

Operating data for 2 $\frac{1}{2}$ meters

DC Plate voltage	300	450 volts
DC Plate current	93	62 ma.
DC Grid Bias#	-60	-90 volts
DC Grid current*	20	20 ma.
Nominal R.F. Carrier output*	16	16 watts

- † Maximum plate voltage may be used at any frequency if maximum plate dissipation is not exceeded. Values of plate input given above assume reasonably efficient circuits and operating conditions.
- # Bias and excitation should be adjusted to optimum value for the particular circuit and other constants employed.
- * Subject to wide variations, controlled by circuit constants and operating characteristics of associated input and output circuits.

Operating note:

With fifteen watts plate dissipation, the anode of the HY75 shows no color. The presence of a red glow indicates that the rated dissipation is being considerably exceeded; and if such occurs, the plate input power should be reduced or adjustments made in the transmitter to increase the plate circuit efficiency thereby lowering the value of plate dissipation to its rated value.