

AMPEREX TUBE TYPE 7899

The Amperex 7899 is a three electrode tube designed for pulse application as a hard tube modulator or pulsed rf amplifier. The anode is capable of dissipating 7.5 kilowatts. Cooling is accomplished by forced air. The thoriated tungsten filament is designed to supply high pulse currents while operating at a relatively low temperature insuring an unusually long life.

GENERAL CHARACTERISTICS

MECHANICAL

Mounting Position	vertical
Type of Cooling	forced air
Max Incoming Air Temperature	45° C

Cooling Characteristics

<u>Plate Dissipation (kw)</u>	<u>Altitude (ft.)</u>	<u>Max Air Inlet Temp. (°C)</u>	<u>Min. Airflow (cu. ft./min.)</u>	<u>Total Pressure (inches water)</u>
7.5	0	35	207	1.40
	0	45	241	1.83
	5000	35	247	1.69
	10,000	25	260	1.65

ELECTRICAL

Filament Voltage	8.0 volts $\begin{matrix} + 0.4 \\ - 0.0 \end{matrix}$
Filament Current	130 amps
Amplification Factor ¹ (I _b = 2 A, E _b = 12 kV)	33
Transconductance ¹ (I _b = 2 A, E _b = 12 kV)	25,000 micromhos
Direct Interelectrode Capacitances	
Grid-Plate	27 $\mu\mu\text{f}$
Grid-Filament	45 $\mu\mu\text{f}$
Plate-Filament	0.6 $\mu\mu\text{f}$

¹ Electrical characteristics are given under conditions which are not allowed continuously. They are measured under pulsed conditions.

7899

PULSED RF AMPLIFIER

Maximum Ratings, Absolute Values

Filament Voltage	8.4 volts max
DC Plate Voltage	20,000 volts max
Peak Positive Plate Voltage (Instantaneous)	35,000 volts max
DC Grid Voltage	- 1500 volts max
Peak Positive Grid Voltage	2500 volts max
Peak Plate Current	85 amps max
Peak Grid Current	20 amps max
Peak Cathode Current	100 amps max
Plate Dissipation	7,500 watts max
Grid Dissipation	500 watts max
Duty Factor	0.025 max
Pulse Length	100 μ sec max

Typical Operation

Filament Voltage	8.4 volts
DC Plate Voltage	15,000 volts
Peak Positive Plate Voltage (Instantaneous)	28,000 volts
DC Grid Voltage	- 500 volts
Peak Positive Grid Voltage	2200 volts
Peak Plate Current	70 amps
Peak Grid Current	15 amps
Plate Dissipation	4000 watts
Duty Factor	0.025
Pulse Length	80 μ sec
Peak Power Output	200,000 watts

CONSTANT CURRENT CHARACTERISTICS

