

RTX-7000

HIGH MU WATER COOLED POWER TRIODE

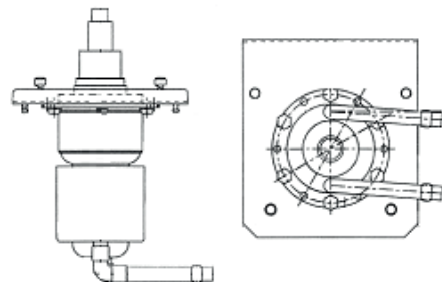
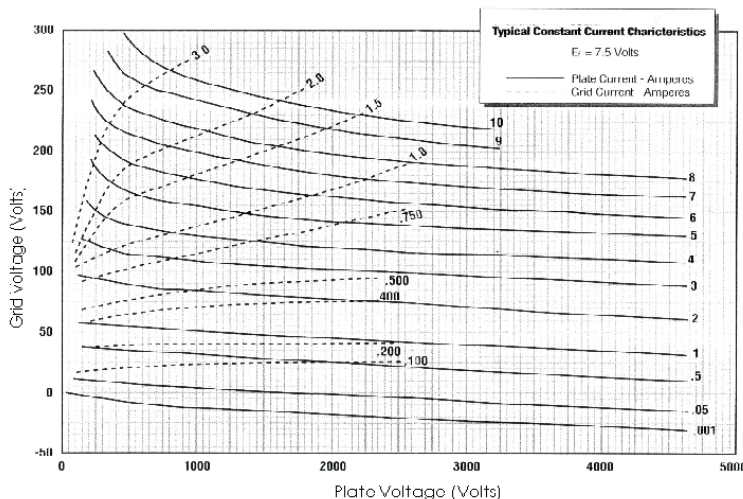
Suitable for amplifier, oscillator, or modulator services.

The RTX-7000 is a true 7000 W tube that offers over 300% boost in PA tube lifetime due to the water-cooled and air-cooled design. A direct replacement for the YU191, the RTX-7000 offers significant improvements in output and reliability.

This is a plug-and-play component with no additional modifications needed for start-up.

RTX-7000 PA TUBE KEY FEATURES

- The Retronix Semiconductor RTX-7000 is a high-mu water-cooled & air cooled ceramic/metal power triode.
- It is intended for use in amplifier, oscillator or modulator service.
- Maximum anode dissipation of the tube is 7,000 watts.
- Frequency of maximum rating for the RT-7000 is 110MHz.



RETRONIX
SEMICONDUCTOR

RTX-7000 PA TUBE

FACT SHEET

MAXIMUM OVERALL DIMENSIONS

Length:	10.2 inches
Diameter:	2.99 inches
Operating Position:	Vertical
Weight (approx.):	3.81 lbs
Cooling:	Water & air
Maximum Operating Temp: (Anode and Ceramic and Metal Seals)	250°C

RADIO FREQUENCY LINEAR AMPLIFIER CATHODE DRIVEN

Absolute maximum ratings

DC plate voltage:	5000 V
DC plate current:	2.5 A
Plate dissipation:	7000 W
Grid dissipation:	225 W

Typical operation

Plate voltage:	4800 V
Zero signal plate current:	0.35 A
Single tone plate current:	1.68 A
Single tone grid current:	0.46 A
Peak drive power:	293 W
Peak dissipation:	2275 W
Single tone plate output power:	7000 W

COOLING

The maximum temperature rating for the anode core and the ceramic/metal seal are 250°C and sufficient forced air-cooling must be used to assure this temperature.

FILAMENT OPERATION

The filament voltage as measured at the filament terminals should be 7.5 volts. Maximum allowable variation due to line fluctuations from 7.12 to 7.87 volts.

RADIO FREQUENCY RADIATION

Avoid exposure to strong RF fields even at relatively low frequency. Absorption of RF energy by human tissue is dependent on frequency. Public health agencies are concerned with the hazard. Many of the Retronix power tubes are specifically designed to generate or amplify radio frequency power. There may be a relatively strong RF field in proximity of the power tube and the associated circuitry. The more power involved the stronger the RF field.

FAULT PROTECTION

Airflow interlock and plate over-current interlocks are good practice to protect the tube from internal damage. In all cases some protective resistance should be used in series with the tube anode to absorb power supply stored energy in case a plate arc should occur.

HIGH VOLTAGE

Normal operating voltages used with these tubes are deadly and the equipment must be designed properly and operating precautions must be followed.

TYPICAL OPERATION (FREQ. UP TO 30MHZ)

Plate voltage:	4000 V
Zero signal plate current:	0.25 A
DC plate current:	0.75 A
DC grid current:	0.13 A
Peak RF grid voltage:	85 V
Peak drive power:	11.5 W
Plate dissipation:	1830 W
Single tone plate output power:	1130 W
Peak RF plate voltage:	2000 V
(Approximate values)	

RADIO FREQUENCY LINEAR AMPLIFIER GRID DRIVEN

Absolute maximum ratings

DC plate voltage:	5000 V
DC plate current:	2.5 A
Plate dissipation:	7000 W
Grid dissipation:	225 W

Typical operation (freq. to 30Mhz)

Plate voltage:	4800 V
Grid voltage:	- 60 V
Plate current:	1.54 A
Grid current:	0.48 A
Peak RF cathode voltage:	267 V
Calculated drive power:	435 W
Plate dissipation:	1480 W
Useful output power:	7000 W
(Approximate values)	