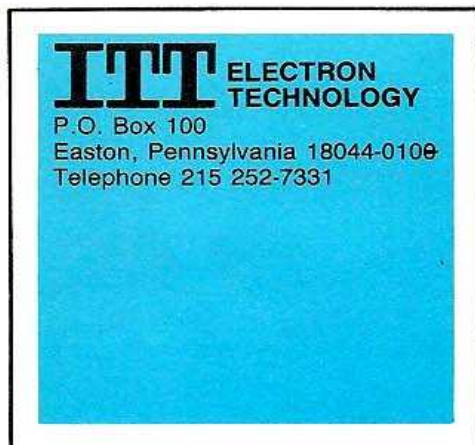




F-5771

POWER TRIODE

DESCRIPTION:

The F-5771 is a three-electrode tube built for use as a radio-frequency amplifier, oscillator, or a Class B modulator. The anode is water-cooled, capable of dissipating 22.5 kilowatts. The cathode is a thoriated tungsten filament. The design of the terminal mount connections and the re-entrant anode minimize lead inductance, makes the tube particularly suitable for high frequency applications up to 25 megacycles at full ratings, 50 megacycles at reduced ratings.

ELECTRICAL

Filament Voltage	7.5	Volts
Filament Current	170	Amperes
Filament Starting Current	800	Amperes Max.
Filament Cold Resistance	.0055	Ohms
Amplification Factor, at $I_B = 2.0$ Amperes, $E_C = -100$ Volts	20	
Interelectrode Capacitances		
Grid-Plate	24.5	μ mf
Grid-Filament	47	μ mf
Plate-Filament	3	μ mf

MECHANICAL

Mounting Position	Vertical, Anode Down
Type of Cooling	Water & Forced Air
Water Flow on Anode	12 GPM Minimum
Maximum Outgoing Water Temperature	70 °C
Air Flow (to bulb and seals) from a 3" diameter nozzle	20 CFM
Maximum Glass Temperature	180 °C
Maximum Seal Temperature	165 °C
Net Weight (Approximately)	7 Pounds

MAXIMUM RATINGS AND TYPICAL OPERATING CONDITIONS

Audio-Frequency Power Amplifier and Modulator - Class B

Maximum Ratings, Absolute Values

DC Plate Voltage	12,500	Volts
Maximum Signal DC Plate Current*	5	Amperes
Maximum Signal Plate Input*	45	Kilowatts
Plate Dissipation*	22.5	Kilowatts

Typical Operation

(Unless otherwise specified, values are for two tubes)

DC Plate Voltage	12,500	Volts
DC Grid Voltage	-600	Volts
Peak A-F Grid-to-Grid Voltage	1,900	Volts
Zero Signal DC Plate Current	1.0	Amperes
Maximum Signal DC Plate Current	6.4	Amperes
Effective Load Resistance, Plate-to-Plate.	4,400	Ohms
Maximum Signal Driving Power (Approx.)	430	Watts
Maximum Signal Power Output (Approx.)	55	Kilowatts

*Averaged over any audio frequency cycle of sine-wave form.

Radio-Frequency Power Amplifier - Class B

(Carrier conditions per tube for use with a maximum modulation factor of 1.0)

DC Plate Voltage	12,500	Volts
DC Plate Current	4	Amperes
Plate Input	33	Kilowatts
Plate Dissipation	22.5	Kilowatts

Typical Operation

DC Plate Voltage	12,500	Volts
DC Grid Voltage	-625	Volts
Peak R-F Grid Voltage	625	Volts
DC Plate Current	2.4	Amperes
DC Grid Current (Approximately)	0	Amperes
Driving Power (Approximately)**	1	Kilowatt
Power Output (Approximately)	12	Kilowatts

**At crest of audio-frequency cycle with modulation factor of 1.0.

Plate Modulated Radio-Frequency Power Amplifier - Class C Telephony

(Carrier conditions per tube for use with a maximum modulation factor of 1.0)

Maximum Ratings, Absolute Values

DC Plate Voltage	10,000	Volts
DC Grid Voltage	-2,000	Volts
DC Plate Current	4	Amperes
DC Grid Current	0.8	Amperes
Plate Input	40	Kilowatts
Plate Dissipation	15	Kilowatts

Typical Operation

DC Plate Voltage	10,000	Volts
DC Grid Voltage	-840	Volts
Peak R-F Grid Voltage	1,440	Volts
DC Plate Current	3.8	Amperes
DC Grid Current (Approximately)	0.78	Amperes
Driving Power (Approximately)	1	Kilowatt
Power Output (Approximately)	29	Kilowatts

Radio-Frequency Power Amplifier and Oscillator - Class C Telegraphy
(Key-down conditions per tube without amplitude modulation)*

Maximum Ratings, Absolute Values

DC Plate Voltage	12,500	15,000**Volts
DC Grid Voltage	-2,000	-2,000**Volts
DC Plate Current	6	6**Amperes
DC Grid Current	0.8	0.8**Amperes
Plate Input	60	67.5**Kilowatts
Plate Dissipation	22.5	22.5**Kilowatts

*Modulation essentially negative may be used if the positive peak of the envelope does not exceed 115% of carrier conditions.

**These ratings apply only at a frequency of 1,600 kilocycles or less.

Typical Operation

DC Plate Voltage	10,000	12,500	15,000	Volts
DC Grid Voltage	-770	-630	-990	Volts
Peak R-F Grid Voltage	1,440	1,230	1,620	Volts
DC Plate Current	6	4.8	4.5	Amperes
DC Grid Current (Approx.)	0.77	0.75	0.8	Amperes
Driving Power (Approx.)	1	1	1.2	Kilowatts
Power Output (Approx.)	40	44	53	Kilowatts

Maximum Ratings Versus Operating Frequency

Frequency	1.6	25	50	Megacycles
Percentage of Maximum Rated				
Plate Voltage and Plate Input				
Class B	100	100	75	Percent
Class C - Plate Modulated	100	100	75	Percent
Class C - Unmodulated				
Max. Plate Voltage	120	100	75	Percent
Max. Plate Input	112.5	100	75	Percent

Additional information for specific information can be obtained from the:

ITT ELECTRON TECHNOLOGY DIVISION
Applications Department
P.O. Box 100
Easton, Pennsylvania 18042

