ELECTRONIC TUBE REFERENCE

F5771

Power - Triode (over 1000V 100W) electronic tube

CONSOLIDATED TECHNICAL DATA
1 SECTION
CONSTRUCTION
TRIODE

Water-cooled high-power triode for RF amplification, oscillation, and Class B modulation. Low-inductance terminals, approximately 22.5 kW plate dissipation, and 15 kV capability suit major fixed transmitter installations.

General characteristics

BASE DESIGNATION	–	**BASE PINS**	–
NOMINAL HEATER	7.5 V / 170 A	**PARALLEL HEATER**	– / –
HEATING	Direct	**SERIES OPERATION**	Not specified
CATHODE ARRANGEMENT	Separate cathodes	**SECTION CONSTRUCTION**	Similar

Section ratings

SECTION1 Triode

AMPLIFICATION FACTOR	37
MAXIMUM PLATE VOLTAGE	15000 V
MAXIMUM PLATE DISSIPATION	22500 W
MAXIMUM CATHODE CURRENT	6.4 A

Published maximum ratings and characteristics audited; remaining numeric data retained densely in parameter table.

Three-electrode power tube for RF amplifier, oscillator and Class B modulator use, with a water-cooled anode and low-inductance terminal structure.

SOURCE OPERATING CONDITIONS

1962 ITT

SOURCE PDF

Published test conditions and operating points. Values on this page are preserved as reported by this source.

1962 ITT

Section 1 · Triode

OTHER		
PARAMETER	**PUBLISHED VALUE**	**CONDITION / NOTE**
ble of dissipating	**22.5**	ble of dissipating 22.5 kilowatts. The cathode is o
suitable for high-frequency applications up to	**25**	suitable for high-frequency applications up to 25
p Filament Voltage	**7.5 V**	p Filament Voltage 7.5 Volis
) Filament Current	**170 A**	) Filament Current 170 Amperes
) Filament Starting Current	**800 mA**	) Filament Starting Current 800 Amperes max.
P Filament Cold Resistance	**55**	P Filament Cold Resistance .0055 Ohms
Grid-Plate	**245**	Grid-Plate 245 puf
Grid-Filament	**47**	Grid-Filament 47 upf
Plate-Filament	**3**	Plate-Filament 3 upf
Water Flow on Anode	**20**	Water Flow on Anode 20 GPM
Temperature	**70**	Temperature 70° C
product, every Federal vacuum tube Maximum Glass Temperature	**180**	product, every Federal vacuum tube Maximum Glass Temperature 180° C
is checked and double-checked to Maximum Seal Temperature	**165**	is checked and double-checked to Maximum Seal Temperature 165° C
Frequency [1]	**1.6**	Frequency 1.6 25 50 Megacycles
Frequency [2]	**25**	Frequency 1.6 25 50 Megacycles
Frequency [3]	**50**	Frequency 1.6 25 50 Megacycles
Published value	**22.5 W**	22.5 Kilowatts Plate Dissipation
Class C—Plate Modvlated [1]	**100**	Class C—Plate Modvlated 100 100 75 Per Cent
Class C—Plate Modvlated [2]	**100**	Class C—Plate Modvlated 100 100 75 Per Cent

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Class C—Plate Modvlated [3]	**75**	Class C—Plate Modvlated 100 100 75 Per Cent
Max. Plate Voltage [1]	**120 V**	Max. Plate Voltage 120 100 75 Per Cent
Max. Plate Voltage [2]	**100 V**	Max. Plate Voltage 120 100 75 Per Cent
Max. Plate Voltage [3]	**75 V**	Max. Plate Voltage 120 100 75 Per Cent
Max. Plate Input [1]	**112.5**	Max. Plate Input 112.5 100 75 Per Cent
Max. Plate Input [2]	**100**	Max. Plate Input 112.5 100 75 Per Cent
Max. Plate Input [3]	**75**	Max. Plate Input 112.5 100 75 Per Cent
DC Plate Voltage	**12500 V**	DC Plate Voltage 12,500 Volts
Maximum Signal DC Plate Currentt	**5 mA**	Maximum Signal DC Plate Currentt 5 Amperes Maximum Ratings, Absolute Values
Maximum Signal Plate Inputt [1]	**45 V**	Maximum Signal Plate Inputt 45 Kilowatis DC Plate Voltage 10,000 Volts
Maximum Signal Plate Inputt [2]	**10000 V**	Maximum Signal Plate Inputt 45 Kilowatis DC Plate Voltage 10,000 Volts
Plate Dissipationt [1]	**225 V**	Plate Dissipationt 22,5 Kilowatts DC Grid Voltage — 1,600 Volts
Plate Dissipationt [2]	**1600 V**	Plate Dissipationt 22,5 Kilowatts DC Grid Voltage — 1,600 Volts
DC Plate Current	**4 A**	DC Plate Current 4 Amperes
DC Grid Current	**800 mA**	DC Grid Current 0.8 Amperes
Typical Operation Plate Input	**40**	Typical Operation Plate Input 40 Kilowatts
Plate Dissipation	**15 W**	Plate Dissipation 15 Kilowatts
DC Plate Voltage	**12500 V**	DC Plate Voltage 12,500 Volts Typical Operation
DC Grid Voltage — [1]	**600 V**	DC Grid Voltage — 600 Volts DC Plate Voltage 10,000 Volts
DC Grid Voltage — [2]	**10000 V**	DC Grid Voltage — 600 Volts DC Plate Voltage 10,000 Volts
DC Grid Voltage —	**840 V**	DC Grid Voltage — 840 Volts
Peak A-F Grid-to-Grid Voltage	**1900 V**	Peak A-F Grid-to-Grid Voltage 1,900 Volts
Peak R-F Grid Voltage	**1440 V**	Peak R-F Grid Voltage 1,440 Volts
Zero Signal DC Plate Current [1]	**1 A**	Zero Signal DC Plate Current 1.0 Amperes DC Plate Current 3.8 Amperes
Zero Signal DC Plate Current [2]	**3.8 A**	Zero Signal DC Plate Current 1.0 Amperes DC Plate Current 3.8 Amperes

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum Signal DC Plate Current [1]	**6.4 mA**	Maximum Signal DC Plate Current 6.4 Amperes DC Grid Current, approximate 0.78 Amperes
Maximum Signal DC Plate Current [2]	**0.78 mA**	Maximum Signal DC Plate Current 6.4 Amperes DC Grid Current, approximate 0.78 Amperes
Effective Load Resistance, Driving Power, approximate	**1 W**	Effective Load Resistance, Driving Power, approximate 1 Kilowatt
Plate to Plate [1]	**4400 W**	Plate to Plate 4,400 Ohms Power Output, approximate 29 Kilowatts
Plate to Plate [2]	**29 W**	Plate to Plate 4,400 Ohms Power Output, approximate 29 Kilowatts
Power, approximate	**430 W**	Power, approximate 430 Watts RADIO-FREQUENCY POWER AMPLIFIER AND
Output, approximate	**55**	Output, approximate 55 Kilowatts {Key-down conditions per tube without amplitude Modulation)|
DC Plate Voltage [1]	**12500 V**	DC Plate Voltage 12,500 15,000* Volts
DC Plate Voltage [2]	**15000 V**	DC Plate Voltage 12,500 15,000* Volts
DC Grid Voltage — [1]	**1600 V**	DC Grid Voltage — 1,600 —1,600* Volts
DC Grid Voltage — [2]	**-1600 V**	DC Grid Voltage — 1,600 —1,600* Volts
RADIO-FREQUENCY POWER AMPLIFIER—CLASS B DC Plate Current [1]	**6 A**	RADIO-FREQUENCY POWER AMPLIFIER—CLASS B DC Plate Current 6 6* Amperes
RADIO-FREQUENCY POWER AMPLIFIER—CLASS B DC Plate Current [2]	**6 A**	RADIO-FREQUENCY POWER AMPLIFIER—CLASS B DC Plate Current 6 6* Amperes
DC Grid Current [1]	**800 mA**	DC Grid Current 0.8 0.8* Amperes
DC Grid Current [2]	**800 mA**	DC Grid Current 0.8 0.8* Amperes
Plate Input [1]	**60**	Plate Input 60 67.5* Kilowatts
Plate Input [2]	**67.5**	Plate Input 60 67.5* Kilowatts
Plate Dissipation [1]	**22.5 W**	Plate Dissipation 22.5 22.5* Kilowatts
Plate Dissipation [2]	**22.5 W**	Plate Dissipation 22.5 22.5* Kilowatts
DC Plate Current [1]	**4 V**	DC Plate Current 4 Amperes DCPlate Voltage 10,000 12,500 15,000 Volts
DC Plate Current [2]	**10000 V**	DC Plate Current 4 Amperes DCPlate Voltage 10,000 12,500 15,000 Volts
DC Plate Current [3]	**12500 V**	DC Plate Current 4 Amperes DCPlate Voltage 10,000 12,500 15,000 Volts

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
DC Plate Current [4]	**15000 V**	DC Plate Current 4 Amperes DCPlate Voltage 10,000 12,500 15,000 Volts
DC Grid Voltage [1]	**-770 V**	DC Grid Voltage —770 —630 —990 Volis
DC Grid Voltage [2]	**-630 V**	DC Grid Voltage —770 —630 —990 Volis
DC Grid Voltage [3]	**-990 V**	DC Grid Voltage —770 —630 —990 Volis
Plate Input	**33**	Plate Input 33 Kilowatts
Plate Dissipation [1]	**22.5 W**	Plate Dissipation 22.5 Kilowatts Yoltage 1,440 1,230 1,620 Volts
Plate Dissipation [2]	**1440 W**	Plate Dissipation 22.5 Kilowatts Yoltage 1,440 1,230 1,620 Volts
Plate Dissipation [3]	**1230 W**	Plate Dissipation 22.5 Kilowatts Yoltage 1,440 1,230 1,620 Volts
Plate Dissipation [4]	**1620 W**	Plate Dissipation 22.5 Kilowatts Yoltage 1,440 1,230 1,620 Volts
DC Plate Current [1]	**6 A**	DC Plate Current 6 4.8 4.5 Amperes
DC Plate Current [2]	**4.8 A**	DC Plate Current 6 4.8 4.5 Amperes
DC Plate Current [3]	**4.5 A**	DC Plate Current 6 4.8 4.5 Amperes
DC Plate Voltage [1]	**12500 V**	DC Plate Voltage 12,500 Volts approximate 0.77 0.75 0.8 Amperes
DC Plate Voltage [2]	**0.77 V**	DC Plate Voltage 12,500 Volts approximate 0.77 0.75 0.8 Amperes
DC Plate Voltage [3]	**0.75 V**	DC Plate Voltage 12,500 Volts approximate 0.77 0.75 0.8 Amperes
DC Plate Voltage [4]	**0.8 V**	DC Plate Voltage 12,500 Volts approximate 0.77 0.75 0.8 Amperes
DC Grid Voltage —	**625 V**	DC Grid Voltage — 625 Volts
Peak R-F Grid Voltage	**625 V**	Peak R-F Grid Voltage 625 Volts Power Output,
DC Plate Current [1]	**2.4 mA**	DC Plate Current 2.4 Amperes approximate 40 44 53 Kilowatts
DC Plate Current [2]	**40 mA**	DC Plate Current 2.4 Amperes approximate 40 44 53 Kilowatts
DC Plate Current [3]	**44 mA**	DC Plate Current 2.4 Amperes approximate 40 44 53 Kilowatts
DC Plate Current [4]	**53 mA**	DC Plate Current 2.4 Amperes approximate 40 44 53 Kilowatts
DC Grid Current, approximate	**0 mA**	DC Grid Current, approximate 0 Amperes fModulation essentially negative may be used if the positive

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Driving Power, approximate} [1]	**1 W**	Driving Power, approximate} 1 Kilowatt peak of the envelope does not exceed 115 per cent of carrier
Driving Power, approximate} [2]	**115 W**	Driving Power, approximate} 1 Kilowatt peak of the envelope does not exceed 115 per cent of carrier
Power Output, approximate	**12 W**	Power Output, approximate 12 Kilowatts
At crest of audio-frequency cycle with modulation factor of	**1**	At crest of audio-frequency cycle with modulation factor of 1.0. or less.
which they were designed	**22.5 W**	which they were designed. 22.5 Kilowatts Plate Dissipation
FHT I	**1 W**	FHT I 1 i POWER TRIODE L
Published value [1]	**35**	35k HHET: THEIEEE 1| PLATE CHARACTERISTICS | H]
Published value [2]	**1**	35k HHET: THEIEEE 1| PLATE CHARACTERISTICS | H]
Published value [1]	**3 W**	3o s Rty POWER TRIODE 15

SOURCE OPERATING CONDITIONS

SOURCE PDF

1962 ITT Industrial and Transmitting Tubes

Published test conditions and operating points. Values on this page are preserved as reported by this source.

1962 ITT INDUSTRIAL AND TRANSMITTING TUBES

Section 1 · Triode

OTHER

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum full-rating frequency	**25 MHz**	—
Cooling method	**water**	—

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