



ELECTRONIC TUBE REFERENCE

F5667

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

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

TRIODE

Forced-air-cooled power triode for RF amplification, oscillation, Class B modulation, and industrial heating. Approximately 7.5 kW plate dissipation and high-voltage operation provide substantial professional RF power without liquid cooling.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	—
NOMINAL HEATER	11 V / 120 A	PARALLEL HEATER	— / —
HEATING	Direct	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION 1 Triode	
AMPLIFICATION FACTOR	21
MAXIMUM PLATE VOLTAGE	10000 V
MAXIMUM PLATE DISSIPATION	7500 W
MAXIMUM CATHODE CURRENT	7.5 A
<i>Published maximum ratings and characteristics audited; remaining numeric data retained densely in parameter table.</i>	

Three-electrode RF power tube for amplifier, oscillator and Class B modulator service, ruggedized for RF-heating duty and forced-air cooled.

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1962 ITT

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
Published value	7.5 W	7.5 Kilowatts Plate Dissipation
Published value	7.5	7.5 kilowatts. The cathode is a pure tungsten filament
tion at	50	tion at 50 megacycles is permissible with plate voltage
P Filament Voltage	11 V	P Filament Voltage 11.0 Volts
) Filament Current	120 A	) Filament Current 120 Amperes
) Filament Starting Current	180 mA	) Filament Starting Current 180 Amperes max.
) Peak Cathode Current	7.5 A	) Peak Cathode Current 7.5 Amperes
) Filament Cold Resistance	83	) Filament Cold Resistance .0083 Ohms
Grid-Plate	18.5	Grid-Plate 18.5 puuf
Grid-Filament	23.3	Grid-Filament 23.3 puf
Plate-Filament	3	Plate-Filament 3.0 puf
Air Temperature	45	Air Temperature 45° C
periority.Y of F	5667	periority.Y of F-5667 Maximum Anode
performance . . . as a radio frequency D Required Air Flow on	230	performance . . . as a radio frequency D Required Air Flow on 230° C
tor or as a replacement for the Type Temperature	160	tor or as a replacement for the Type Temperature 160° C
FEDERAL POWER TRIODE Federal's F	5667 W	FEDERAL POWER TRIODE Federal's F-5667 is designed and en-
DC Plate Voltage	10000 V	DC Plate Voltage 10,000 Volts
Max. Signal DC Plate Current* * [1]	2 V	Max. Signal DC Plate Current** 2 Amperes DC Plate Voltage 8,000 Volts

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Max. Signal DC Plate Current* * [2]	8000 V	Max. Signal DC Plate Current* * 2 Amperes DC Plate Voltage 8,000 Volts
DC Grid Voltage –	1500 V	DC Grid Voltage — 1,500 Volts
Max. Signal Plate Input**	16	Max. Signal Plate Input** 16 Kilowatts
DC Plate Current	1 A	DC Plate Current 1.0 Ampere
Plate Dissipation™*	7.5 W	Plate Dissipation™* 7.5 Kilowatts
DC Grid Current	350 mA	DC Grid Current 0.35 Ampere
Typical Operation Plate Input	8	Typical Operation Plate Input 8 Kilowatts
Plate Dissipation	5 W	Plate Dissipation 5 Kilowatts
DC Plate Voltage	7500 V	DC Plate Voltage 7,500 Volts Typical Operation
DC Grid Voltage – [1]	300 V	DC Grid Voltage — 300 Volts DC Plate Voltage 6,000 7,500 Volts
DC Grid Voltage – [2]	6000 V	DC Grid Voltage — 300 Volts DC Plate Voltage 6,000 7,500 Volts
DC Grid Voltage – [3]	7500 V	DC Grid Voltage — 300 Volts DC Plate Voltage 6,000 7,500 Volts
Peak A-F Grid to Grid Voltage [1]	1700 V	Peak A-F Grid to Grid Voltage 1,700 Volts DC Grid Voltage —900 —1,200 Volts
Peak A-F Grid to Grid Voltage [2]	-900 V	Peak A-F Grid to Grid Voltage 1,700 Volts DC Grid Voltage —900 —1,200 Volts
Peak A-F Grid to Grid Voltage [3]	-1200 V	Peak A-F Grid to Grid Voltage 1,700 Volts DC Grid Voltage —900 —1,200 Volts
Zero Signal DC Plate Current [1]	0.4 V	Zero Signal DC Plate Current 0.4 Amperes Peak R-F Grid Voltage 1,420 1,700 Volts
Zero Signal DC Plate Current [2]	1420 V	Zero Signal DC Plate Current 0.4 Amperes Peak R-F Grid Voltage 1,420 1,700 Volts
Zero Signal DC Plate Current [3]	1700 V	Zero Signal DC Plate Current 0.4 Amperes Peak R-F Grid Voltage 1,420 1,700 Volts
Maximum Signal DC Plate Current [1]	3.2 mA	Maximum Signal DC Plate Current 3.2 Amperes DC Plate Current 1.0 .88 Ampere
Maximum Signal DC Plate Current [2]	1 mA	Maximum Signal DC Plate Current 3.2 Amperes DC Plate Current 1.0 .88 Ampere
Maximum Signal DC Plate Current [3]	88 mA	Maximum Signal DC Plate Current 3.2 Amperes DC Plate Current 1.0 .88 Ampere
DC Grid Current, approx [1]	100 mA	DC Grid Current, approx. 0.1 .08 Ampere
DC Grid Current, approx [2]	8 A	DC Grid Current, approx. 0.1 .08 Ampere

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
(plate to plate) [1]	5000 W	(plate to plate) 5,000 Ohms Driving Power, approx. 140 140 Watts
(plate to plate) [2]	140 W	(plate to plate) 5,000 Ohms Driving Power, approx. 140 140 Watts
(plate to plate) [3]	140 W	(plate to plate) 5,000 Ohms Driving Power, approx. 140 140 Watts
Power Output, approx [1]	4 W	Power Output, approx. 4 5 Kilowatts
Power Output, approx [2]	5 W	Power Output, approx. 4 5 Kilowatts
RADIO-FREQUENCY POWER AMPLIFIER DC Plate Voltage	10000 V	RADIO-FREQUENCY POWER AMPLIFIER DC Plate Voltage 10,000 Volts
—CLASS B TELEPHONY DC Grid Voltage —	1500 V	—CLASS B TELEPHONY DC Grid Voltage — 1,500 Volts
(Carrier conditions per tube for use with a maximum DC Plate Current	2 mA	(Carrier conditions per tube for use with a maximum DC Plate Current 2.0 Amperes
modulation factor of [1]	1 A	modulation factor of 1.0} DC Grid Current 0.35 Amperes
modulation factor of [2]	350 mA	modulation factor of 1.0} DC Grid Current 0.35 Amperes
Maximum Rafings Plate Input	20	Maximum Rafings Plate Input 20 Kilowatts
DC Plate Voltage [1]	10000 V	DC Plate Voltage 10,000 Volts Plate Dissipation 7.5 Kilowatts
DC Plate Voltage [2]	7.5 V	DC Plate Voltage 10,000 Volts Plate Dissipation 7.5 Kilowatts
DC Plate Current	1 A	DC Plate Current 1.0 Ampere Typical Operation
Plate Input [1]	10 V	Plate Input 10 Kilowatts DC Plate Voltage 6,000 7,500 9,000 Volts
Plate Input [2]	6000 V	Plate Input 10 Kilowatts DC Plate Voltage 6,000 7,500 9,000 Volts
Plate Input [3]	7500 V	Plate Input 10 Kilowatts DC Plate Voltage 6,000 7,500 9,000 Volts
Plate Input [4]	9000 V	Plate Input 10 Kilowatts DC Plate Voltage 6,000 7,500 9,000 Volts
Plate Dissipation [1]	7.5 V	Plate Dissipation 7.5 Kilowatts Filament Voltage 10,6 10.7 10.8 Volts
Plate Dissipation [2]	106 V	Plate Dissipation 7.5 Kilowatts Filament Voltage 10,6 10.7 10.8 Volts
Plate Dissipation [3]	10.7 V	Plate Dissipation 7.5 Kilowatts Filament Voltage 10,6 10.7 10.8 Volts

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Dissipation [4]	10.8 V	Plate Dissipation 7.5 Kilowatts Filament Voltage 10,6 10.7 10.8 Volts
DC Grid Voltage [1]	-500 V	DC Grid Voltage —500 —600 —750 Volts
DC Grid Voltage [2]	-600 V	DC Grid Voltage —500 —600 —750 Volts
DC Grid Voltage [3]	-750 V	DC Grid Voltage —500 —600 —750 Volts
Voltage [1]	1200 V	Voltage 1,200 1,400 1,700 Volts
Voltage [2]	1400 V	Voltage 1,200 1,400 1,700 Volts
Voltage [3]	1700 V	Voltage 1,200 1,400 1,700 Volts
DC Plate Voltage [1]	9000 V	DC Plate Voltage 9,000 Volts DC Plate Current 1.6 1.8 2.0 Amperes
DC Plate Voltage [2]	1.6 V	DC Plate Voltage 9,000 Volts DC Plate Current 1.6 1.8 2.0 Amperes
DC Plate Voltage [3]	1.8 V	DC Plate Voltage 9,000 Volts DC Plate Current 1.6 1.8 2.0 Amperes
DC Plate Voltage [4]	2 V	DC Plate Voltage 9,000 Volts DC Plate Current 1.6 1.8 2.0 Amperes
DC Grid Voltage	-350 V	DC Grid Voltage —350 Volts DC Grid Current,
Peak R-F Grid Voltage [1]	450 V	Peak R-F Grid Voltage 450 Volts approx. A9 .20 .21 Amperes
Peak R-F Grid Voltage [2]	20 V	Peak R-F Grid Voltage 450 Volts approx. A9 .20 .21 Amperes
Peak R-F Grid Voltage [3]	21 V	Peak R-F Grid Voltage 450 Volts approx. A9 .20 .21 Amperes
DC Piate Current [1]	800 mA	DC Piate Current 0.8 Ampere approx. 220 270 340 Watts
DC Piate Current [2]	220 A	DC Piate Current 0.8 Ampere approx. 220 270 340 Watts
DC Piate Current [3]	270 A	DC Piate Current 0.8 Ampere approx. 220 270 340 Watts
DC Piate Current [4]	340 A	DC Piate Current 0.8 Ampere approx. 220 270 340 Watts
Driving Power, approx.t	110 W	Driving Power, approx.t 110 Watts Power Output
Power Output, approx [1]	2.5 W	Power Output, approx. 2.5 Kilowatts approx. 6.3 8.9 12.2 Kilowatts
Power Output, approx [2]	6.3 W	Power Output, approx. 2.5 Kilowatts approx. 6.3 8.9 12.2 Kilowatts
Power Output, approx [3]	8.9 W	Power Output, approx. 2.5 Kilowatts approx. 6.3 8.9 12.2 Kilowatts

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Power Output, approx [4]	12.2 W	Power Output, approx. 2.5 Kilowatts approx. 6.3 8.9 12.2 Kilowatts
When interchanged with the	889 W	When interchanged with the 889-RA FEDERAL POWER TRIODE
eral's F [1]	5667 W	eral's F-5667 brings a finer, newer 7.5 Kilowatts Plate Dissipation
eral's F [2]	7.5 W	eral's F-5667 brings a finer, newer 7.5 Kilowatts Plate Dissipation
i3 HEEE GRID GHARACTERISTICS F	5667	i3 HEEE GRID GHARACTERISTICS F-5667
FEDERAL POWER TRIODE Federal's F	5667 W	FEDERAL POWER TRIODE Federal's F-5667 is built to "stand-up"
Published value	7.5	7.5 Kilowatts Plate DiSSipflfiOh tear of a long service life.
to the over-all ruggedness of Federal	7.5 W	to the over-all ruggedness of Federal 7.5 Kilowatts Plate Dissipation



SOURCE DATA APPENDIX

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	22.5 MHz	—
Cooling method	forced air	—

TUBE TINKER

An independent reference for electronic tubes, vacuum tubes, and their source documents.

