



ELECTRONIC TUBE REFERENCE

F6804

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

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

TRIODE

High-power ITT transmitting triode for RF and Class B amplifier service. Approximately 25 kW plate dissipation and 19 kV capability support very high Class C RF or Class B linear input power.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	—
NOMINAL HEATER	11 V / 190 A	PARALLEL HEATER	— / —
HEATING	Direct	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION 1 Triode	
AMPLIFICATION FACTOR	40
MAXIMUM PLATE VOLTAGE	19000 V
MAXIMUM PLATE DISSIPATION	25000 W
MAXIMUM CATHODE CURRENT	100 A
<i>Published maximum ratings and characteristics audited; remaining numeric data retained densely in parameter table.</i>	

Three-electrode power tube for radio-frequency amplifier, oscillator, or Class B modulator service. Its forced-air-cooled anode can dissipate 25 kW in continuous commercial service.

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
The F	6804	The F-6804 is a three electrode tube designed for use as a radic frequency
Peak Cathode Current, Note	1 A	Peak Cathode Current, Note 1 amperes
Radiator Temperature	180	Radiator Temperature 180 °c, max.
Glass Temperature	180	Glass Temperature 180 °C, max.
D-C Plate Voltage	19000 V	D-C Plate Voltage 19,000 volts
Max. Signal D-C Plate Current, Note [1]	3 A	Max. Signal D-C Plate Current, Note 3 9 amperes
Max. Signal D-C Plate Current, Note [2]	9 A	Max. Signal D-C Plate Current, Note 3 9 amperes
Max. Signal Plate Input, Note [1]	3	Max. Signal Plate Input, Note 3 150 kilowatts
Max. Signal Plate Input, Note [2]	150	Max. Signal Plate Input, Note 3 150 kilowatts
Plate Dissipation, ©Note [1]	3 W	Plate Dissipation, ©Note 3 25 kilowatts
Plate Dissipation, ©Note [2]	25 W	Plate Dissipation, ©Note 3 25 kilowatts
D-C Plate Voltage	10000 V	D-C Plate Voltage 10,000 volts
D-C Grid Voltage	-220 V	D-C Grid Voltage -220 volts
Peak A~F Grid~-to-Grid Voltage	820 V	Peak A~F Grid~-to-Grid Voltage 820 volts
Zero Signal D-C Plate Current	6 A	Zero Signal D-C Plate Current .6 amperes
Max. Signal D-C Plate Current	5.8 A	Max. Signal D-C Plate Current 5.8 amperes
Effective Load Resistance, Plate-to-Plate	3600	Effective Load Resistance, Plate-to-Plate 3600 ohms

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Max. Signal Driving Power, approx	820 W	Max. Signal Driving Power, approx. 820 watts
Max. Signal Power Output, approx	37 W	Max. Signal Power Output, approx. 37 kilowatts
D-C Plate Voltage	14000 V	D-C Plate Voltage 14,000 volts
D=-C Grid Voltage	-3000 V	D=-C Grid Voltage -3,000 volts
D-C Plate Current	12 A	D-C Plate Current 12 amperes
D~C Grid Current	1.5 A	D~C Grid Current 1.5 amperes
Plate Input	85	Plate Input 85 kilowatts
Plate Dissipation	20 W	Plate Dissipation 20 kilowatts
D-C Plate Voltage [1]	10000 V	D-C Plate Voltage 10,000 14,000 volts
D-C Plate Voltage [2]	14000 V	D-C Plate Voltage 10,000 14,000 volts
D-C Grid Voltage ~ [1]	750 V	D-C Grid Voltage ~750 -900 volts
D-C Grid Voltage ~ [2]	-900 V	D-C Grid Voltage ~750 -900 volts
Peak R-F Grid Voltage [1]	1360 V	Peak R-F Grid Voltage 1360 1,500 volts
Peak R-F Grid Voltage [2]	1500 V	Peak R-F Grid Voltage 1360 1,500 volts
D-C Plate Current [1]	6.6 A	D-C Plate Current 6.6 5.7 amperes
D-C Plate Current [2]	5.7 A	D-C Plate Current 6.6 5.7 amperes
D~C Grid Current [1]	9 A	D~C Grid Current .9 .9 amperes
D~C Grid Current [2]	9 A	D~C Grid Current .9 .9 amperes
Driving Power, approximate [1]	1.2 W	Driving Power, approximate 1.2 1.3 kilowatts
Driving Power, approximate [2]	1.3 W	Driving Power, approximate 1.2 1.3 kilowatts
Power Output, approximate [1]	50 W	Power Output, approximate 50 50 kilowatts
Power Output, approximate [2]	50 W	Power Output, approximate 50 50 kilowatts
D-C Plate Voltage, Note [1]	5 V	D-C Plate Voltage, Note 5 17,500 volts
D-C Plate Voltage, Note [2]	17500 V	D-C Plate Voltage, Note 5 17,500 volts
D-C Grid Voltage ~	3000 V	D-C Grid Voltage ~3,000 volts
D-C Plate Current	15 A	D-C Plate Current 15 amperes
D-C Grid Current	1.5 A	D-C Grid Current 1.5 amperes
Plate Input	125	Plate Input 125 kilowatts

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Dissipation	25 W	Plate Dissipation 25 kilowatts
D-C Grid Voltage ~	1000 V	D-C Grid Voltage ~1,000 volts
Peak R-F Grid Voltage	1675 V	Peak R-F Grid Voltage 1,675 volts
D-C Plate Current	6.4 A	D-C Plate Current 6.4 amperes
D-C Grid Current, approximate	1.1 A	D-C Grid Current, approximate 1.1 amperes
Driving Power, approximate	17 W	Driving Power, approximate 1,7 kilowatts
Power Output, approximate	50 W	Power Output, approximate 50 kilowatts
Frequency [1]	22	Frequency 22 30 40 megacycles
Frequency [2]	30	Frequency 22 30 40 megacycles
Frequency [3]	40	Frequency 22 30 40 megacycles
Plate Voltage & Plate Tnput [1]	100 V	Plate Voltage & Plate Tnput 100 80 50 per cent
Plate Voltage & Plate Tnput [2]	80 V	Plate Voltage & Plate Tnput 100 80 50 per cent
Plate Voltage & Plate Tnput [3]	50 V	Plate Voltage & Plate Tnput 100 80 50 per cent
Note	1 A	Note 1l: Represents maximum usable cathode current
Note	3	Note 3: Averaged over any audio frequency cycle of sine-wave form.
Note [1]	5 V	Note 5: The tube may be operated up to 19,000 d-c plate voltage at
Note [2]	19000 V	Note 5: The tube may be operated up to 19,000 d-c plate voltage at
BLACK GRID - , ' / , %	4	BLACK GRID - , ' / , %4



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

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
GridPlateCapacitance	37 pF	—
GridFilamentCapacitance	75 pF	—
PlateFilamentCapacitance	2.2 pF	—
FilamentStartingCurrent	600 A	—
FilamentHeatingTime	15 s	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
MaximumRFDCGridVoltage	-3000 V	ClassC
MaximumRFDCPlateCurrent	15 A	ClassC
MaximumRFDCGridCurrent	1.5 A	ClassC
MaximumRFPlateInput	125 kW	ClassC
MaximumSignalPlateInput	150 kW	ClassB

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