



ELECTRONIC TUBE REFERENCE

F6398

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

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

TRIODE

Massive water-cooled ITT power triode for very-high-power RF service. Hundreds of kilowatts of plate dissipation, extremely high voltage, and multiampere current capability place it among the largest fixed transmitter tubes.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	—
NOMINAL HEATER	15.5 V / 420 A	PARALLEL HEATER	— / —
HEATING	Direct	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION 1 Triode	
MAXIMUM PLATE VOLTAGE	65000 V
MAXIMUM PLATE DISSIPATION	225000 W
MAXIMUM GRID DISSIPATION	6000 W
MAXIMUM CATHODE CURRENT	550 A
Published maximum ratings and characteristics audited; remaining numeric data retained densely in parameter table.	

The F6398 is an exceptionally high-power triode for radio-frequency amplifier, oscillator, and class-B modulator 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
is water cooled, capable of dissipating	225	is water cooled, capable of dissipating 225 kilowatts., The cathode is
a thoriated tungsten filament. Maximum ratings apply up to	22	a thoriated tungsten filament. Maximum ratings apply up to 22 megacycles.
Filament Voltage	15.5 V	Filament Voltage 15.5 volts
Filament Current	420 A	Filament Current 420 amperes
Filament Starting Current	1000 mA	Filament Starting Current 1000 max. amperes
Grid-Plate	125	Grid-Plate 125 ppf
Grid-Filament	140	Grid-Filament 140 puf
To filament seals	40	To filament seals 40 cfm min,
Maximum Glass Temperature	180	Maximum Glass Temperature 180 °c
D-C Plate Voltage	20 V	D-C Plate Voltage 20 kilovolts
D-C Grid Voltage	-4 V	D-C Grid Voltage -4 kilovolts
D-C Plate Current	16.5 A	D-C Plate Current 16.5 amperes
D-C Grid Current	5 A	D-C Grid Current 5 amperes
Plate Input	320	Plate Input 320 kilowatts
Plate Dissipation	150 W	Plate Dissipation 150 kilowatts
D~C Plate Voltage	17 V	D~C Plate Voltage 17 kilovolts
D-C Grid Voltage	-2.5 V	D-C Grid Voltage -2.5 kilovolts
Peak R-F Grid voltage	3.55 V	Peak R-F Grid voltage 3.55 kilovolts
Peak R-F Plate Voltage	14 V	Peak R-F Plate Voltage 14 kilovolts
D-C Plate Current	16 A	D-C Plate Current 16 amperes
D-C Grid Current, approx	2.2 A	D-C Grid Current, approx. 2.2 amperes

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Power Output, approx	200 W	Power Output, approx. 200 kilowatts
D-C Plate Voltage	25 V	D-C Plate Voltage 25 kilovolts
Maximum Signal D-C Plate Current*	20 mA	Maximum Signal D-C Plate Current* 20 amperes
Maximum Signal Plate Input*	500	Maximum Signal Plate Input* 500 kilowatts
Plate Dissipation*	225 W	Plate Dissipation* 225 kilowatts
D-C Plate Voltage [1]	1 V	D-C Plate Voltage 1k 18 kilovolts
D-C Plate Voltage [2]	18 V	D-C Plate Voltage 1k 18 kilovolts
D~-C Grid Voltage [1]	-675 V	D~-C Grid Voltage -675 =830 volts
D~-C Grid Voltage [2]	830 V	D~-C Grid Voltage -675 =830 volts
Peak A-F Grid=-to=-Grid Voltage [1]	2760 V	Peak A-F Grid=-to=-Grid Voltage 2760 3320 volts
Peak A-F Grid=-to=-Grid Voltage [2]	3320 V	Peak A-F Grid=-to=-Grid Voltage 2760 3320 volts
Zero Signal D-C Plate Current [1]	4 A	Zero Signal D-C Plate Current 4 4 amperes
Zero Signal D-C Plate Current [2]	4 A	Zero Signal D-C Plate Current 4 4 amperes
Maximum Signal D-C Plate Current [1]	32 mA	Maximum Signal D-C Plate Current 32 38 amperes
Maximum Signal D-C Plate Current [2]	38 mA	Maximum Signal D-C Plate Current 32 38 amperes
Effective Load Resistance Plate-to-Plate [1]	960	Effective Load Resistance Plate-to-Plate 960 1065 ohms
Effective Load Resistance Plate-to-Plate [2]	1065	Effective Load Resistance Plate-to-Plate 960 1065 ohms
Maximum Signal Driving Power, approx [1]	2 W	Maximum Signal Driving Power, approx. 2kko 4500 watts
Maximum Signal Driving Power, approx [2]	4500 W	Maximum Signal Driving Power, approx. 2kko 4500 watts
Maximum Signal Power Output, approx [1]	3500 W	Maximum Signal Power Output, approx. 3500 480 kilowatts
Maximum Signal Power Output, approx [2]	480 W	Maximum Signal Power Output, approx. 3500 480 kilowatts
D=C Plate Voltage	25 V	D=C Plate Voltage 25 kilovolts
D~C Plate Current	25 A	D~C Plate Current 25 amperes
Plate Input	500	Plate Input 500 kilowatts

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Dissipation	225 W	Plate Dissipation 225 kilowatts
D-C Plate Voltage	18 V	D-C Plate Voltage 18 kilovolts
D=C Grid Voltage	-23 V	D=C Grid Voltage -2,3 kilovolts
Peak R-F Grid Voltage	3.6 V	Peak R-F Grid Voltage 3.6 kilovolts
D«C Plate Current	24 A	D«C Plate Current 24 amperes
D-C Grid Current, approx,	3.6 A	D-C Grid Current, approx, 3.6 amperes
Driving Power, approx	11 W	Driving Power, approx. 11 kilowatts
Power Out, approx,	325 W	Power Out, approx, 325 kilowatts
D-C Plate Voltage	30 V	D-C Plate Voltage 30 kilovolts
D-C Grid Voltage	-8 V	D-C Grid Voltage -8 kilovolts
Peak Cathode Current	400 A	Peak Cathode Current 400 amperes
Pulse Length	10	Pulse Length .010 Beconds
D-C Plate Voltage	25 V	D-C Plate Voltage 25 kilovoltas
D~-C Grid Voltage	-5 V	D~-C Grid Voltage -5 kilovoltse
D-C Plate Current (during Pulse)	75 A	D-C Plate Current (during Pulse) 75 amperes
D~C Grid Current (during Pulse)	10 A	D~C Grid Current (during Pulse) 10 amperes
Peak Power Output	1300 W	Peak Power Output 1300 kilowatts
D-C Plate Voltage [1]	65 V	D-C Plate Voltage 65 65 max, kilovolts
D-C Plate Voltage [2]	65 V	D-C Plate Voltage 65 65 max, kilovolts
Peak Positive Voltage (Instantaneous) T0	70 V	Peak Positive Voltage (Instantaneous) T0 70 max, kilovolts
D-C Grid Voltage [1]	-8 V	D-C Grid Voltage -8 -8 max. kilovolts
D-C Grid Voltage [2]	-8 V	D-C Grid Voltage -8 -8 max. kilovolts
Peak Positive Grid Voltage	8 V	Peak Positive Grid Voltage 8 max, kilovolts
Pulse Plate Current [1]	350 A	Pulse Plate Current 350 ##450 wax, amperes
Pulse Plate Current [2]	450 A	Pulse Plate Current 350 ##450 wax, amperes
Pulse Grid Current [1]	150 mA	Pulse Grid Current 150 *%250 max, amperes
Pulse Grid Current [2]	250 mA	Pulse Grid Current 150 *%250 max, amperes
Pulse Cathode Current %	550 mA	Pulse Cathode Current %550 max, amperes
Grid Dissipation	6 W	Grid Dissipation 6 max. kilowatts
Pulse Length [1]	15	Pulse Length 15 15 max. usec.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Pulse Length [2]	15	Pulse Length 15 15 max. usec.
D-C Plate Voltage	50 V	D-C Plate Voltage 50 kilovolts
Pulse Plate Current	300 A	Pulse Plate Current 300 amperes
Pulse Grid Current	90 A	Pulse Grid Current 90 amperes
Pulse Positive Grid Voltage	3 V	Pulse Positive Grid Voltage 3 kilovolts
Pulse Length	10	Pulse Length 10 usec.
Plate Output Voltage	4 V	Plate Output Voltage 4 kilovolts
filament temperatures - Ef =	16.75	filament temperatures - Ef = 16.75 v.
Published value [1]	3	3/4 min, grid
Published value [2]	4	3/4 min, grid
F	6398 W	F-6398 POWER TRIODE

TUBE TINKER

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

[Catalog](#) [Tube types](#) [Full books](#) [Blog](#) [Feedback & corrections](#)

© 2026 Tube Tinker