



ELECTRONIC TUBE REFERENCE

F5918A

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

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

TRIODE

Water-cooled high-power transmitting triode for RF amplification, oscillation, and Class B modulation. Approximately 70 kW plate dissipation and 17.5 kV capability provide enormous continuous power for major fixed transmitters.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	—
NOMINAL HEATER	11 V / 285 A	PARALLEL HEATER	— / —
HEATING	Direct	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION 1 Triode	
AMPLIFICATION FACTOR	37
MAXIMUM PLATE VOLTAGE	17500 V
MAXIMUM PLATE DISSIPATION	70000 W
MAXIMUM CATHODE CURRENT	100 A
Published maximum ratings and characteristics audited; remaining numeric data retained densely in parameter table.	

Three-electrode high-power tube for RF amplifier, oscillator and Class B modulator service with a 70 kW water-cooled anode.

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	70 W	70 Kilowatts Plate Dissipation
dissipating	70	dissipating 70 kilowatts. The cathode is a thoriated
tungsten filament. Maximum ratings apply up to	22	tungsten filament. Maximum ratings apply up to 22
) Filament Current	285 A	) Filament Current 285 Amperes
) Filament Starting Current	1000 mA	) Filament Starting Current 1000 Amperes max.
p Filament Cold Resistance	5	p Filament Cold Resistance .005 Ohms
) Peak Cathode Current	100 A	) Peak Cathode Current 100 Amperes
Grid-Plate	345	Grid-Plate 345 puf
Grid-Filament	75	Grid-Filament 75 upf
Plate-Filament	2.4	Plate-Filament 2.4 puf
Water Flow on Anode	30	Water Flow on Anode 30 GPM
Temperature	70	Temperature 70° C
Maximum Glass Temperature	150	Maximum Glass Temperature 150° C
FEDERAL POWER TRIODE The F	5918 W	FEDERAL POWER TRIODE The F-5918-A has given proven ser-
Type F [1]	5918 kW	Type F-5918-A vice in 200 KW plate modulated
Type F [2]	200 kW	Type F-5918-A vice in 200 KW plate modulated
Published value	70 W	70 Kilowatts Plate Dissipation short-wave transmitters.
DC Plate Voltage	17500 V	DC Plate Voltage 17,500 Volts Maximum Ratings, Absolute Values
Maximum Signal DC Plate Currentt [1]	15 V	Maximum Signal DC Plate Currentt 15 A.mperes DC Plate Voltage 14,000 Volts

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum Signal DC Plate Currentt [2]	14000 V	Maximum Signal DC Plate Currentt 15 A.mperes DC Plate Voltage 14,000 Volts
Maximum Signal Plate Inputt [1]	175 V	Maximum Signal Plate Inputt 175 Kilowatts DC Grid Voltage —3.000 Volts
Maximum Signal Plate Inputt [2]	-3 V	Maximum Signal Plate Inputt 175 Kilowatts DC Grid Voltage —3.000 Volts
Plate Dissipationt [1]	70 A	Plate Dissipationt 70 Kilowatts DC Plate Current 12 Amperes
Plate Dissipationt [2]	12 A	Plate Dissipationt 70 Kilowatts DC Plate Current 12 Amperes
DC Grid Current	2 A	DC Grid Current 2 Amperes
Typical Operation Plate Input	165	Typical Operation Plate Input 165 Kilowatts
{Unless otherwise specified, values are for two tubes) Plate Dissipation	47 W	{Unless otherwise specified, values are for two tubes) Plate Dissipation 47 Kilowatts
DC Plate Yoltage	14000	DC Plate Yoltage 14,000 Volts Typical O "
DC Grid Voltage	-300 V	DC Grid Voltage —300 Volts P P
Peak A-F Grid-to-Grid Voltage [1]	1600 V	Peak A-F Grid-to-Grid Voltage 1,600 Volts DC Plate Voltage 14,000 Volts
Peak A-F Grid-to-Grid Voltage [2]	14000 V	Peak A-F Grid-to-Grid Voltage 1,600 Volts DC Plate Voltage 14,000 Volts
DC Grid Voltage –	800 V	. DC Grid Voltage — 800 Volts
Zero Signal DC Plate Current [1]	2 V	Zero Signal DC Plate Current 2 Amperes Peak R-F Grid Voltage 1550 Volts
Zero Signal DC Plate Current [2]	1550 V	Zero Signal DC Plate Current 2 Amperes Peak R-F Grid Voltage 1550 Volts
Maximum Signal DC Plate Current [1]	16 mA	Maximum Signal DC Plate Current 16 Amperes DC Plate Current ' 10 Amperes
Maximum Signal DC Plate Current [2]	10 mA	Maximum Signal DC Plate Current 16 Amperes DC Plate Current ' 10 Amperes
Effective Load Resistance, Plate DC Grid Current	1.4 A	Effective Load Resistance, Plate DC Grid Current 1.4 Amperes
to Plate [1]	2250 W	to Plate 2,250 Ohms Driving Power, approximate 2 Kilowatts
to Plate [2]	2 W	to Plate 2,250 Ohms Driving Power, approximate 2 Kilowatts
Max. Sig. Driving Power, approx [1]	1500 W	Max. Sig. Driving Power, approx. 1,500 Watts Power Output, approximate 104 Kilowatts

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Max. Sig. Driving Power, approx [2]	104 W	Max. Sig. Driving Power, approx. 1,500 Watts Power Output, approximate 104 Kilowatts
Max. Sig. Power Output, approx	150 W	Max. Sig. Power Output, approx. 150 Kilowatts
Maximum Ratings, Absolute Values DC Plcf'e Voltage	17500 V	Maximum Ratings, Absolute Values DC Plcf'e Voltage 17,500 Volts
DC Grid Voltage –	3000	DC Grid Voltage — 3,000 Volts
DC Plate Voltage [1]	17500 V	DC Plate Voltage 17,500 V DC Plate Current 18 Amperes
DC Plate Voltage [2]	18 V	DC Plate Voltage 17,500 V DC Plate Current 18 Amperes
DC Plate Current [1]	12 A	DC Plate Current 12 Amperes DC Grid Current 2 Amperes
DC Plate Current [2]	2 A	DC Plate Current 12 Amperes DC Grid Current 2 Amperes
Plate Input [1]	100	Plate Input 100 Kilowatts Plate Input 300 Kilowatts
Plate Input [2]	300	Plate Input 100 Kilowatts Plate Input 300 Kilowatts
Plate Dissipation [1]	70 W	Plate Dissipation 70 Kilowatts Plate Dissipation 70 Kilowatts
Plate Dissipation [2]	70 W	Plate Dissipation 70 Kilowatts Plate Dissipation 70 Kilowatts
DC Plate Voltage	17500	DC Plate Voltage 17,500 Volts
DC Plate Voltage	15000 V	DC Plate Voltage 15,000 Volts
DC Grid Voltage –	1000	DC Grid Voltage — 1,000 Volts
DC Grid Voltage [1]	-375 V	DC Grid Voltage —375 Volts Peak R-F Grid Voltage 1,960 Volts
DC Grid Voltage [2]	1960 V	DC Grid Voltage —375 Volts Peak R-F Grid Voltage 1,960 Volts
Peak R-F Grid Voltage [1]	500 V	Peak R-F Grid Voltage 500 Volts DC Plate Current 13.8 Amperes
Peak R-F Grid Voltage [2]	13.8 V	Peak R-F Grid Voltage 500 Volts DC Plate Current 13.8 Amperes
DC Plate Current [1]	4.9 mA	DC Plate Current 4.9 Amperes DC Grid Current, approximate 2 Amperes
DC Plate Current [2]	2 mA	DC Plate Current 4.9 Amperes DC Grid Current, approximate 2 Amperes

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
DC Grid Current [1]	0 mA	DC Grid Current 0.0 Amperes Driving Power, approximate 3.6 Kilowatts
DC Grid Current [2]	3.6 mA	DC Grid Current 0.0 Amperes Driving Power, approximate 3.6 Kilowatts
Driving Power, approximate [1]	770 W	Driving Power, approximate 770 Watts Power QOutput, approximate 180 Kilowatts
Driving Power, approximate [2]	180 W	Driving Power, approximate 770 Watts Power QOutput, approximate 180 Kilowatts
Power Output, approximate	25 W	Power Output, approximate 25 Kilowatts f[Modulation essentially negative may be used if the positive
Published value [1]	1	1At crest of audio-frequency cycle with modulation factor of 1.0, conditions.
Published value [2]	1	1At crest of audio-frequency cycle with modulation factor of 1.0, conditions.
The F	5918	The F-5918-A grid is especially
in operation	70	in operation. 70 Kilowatts Plate Dissipation
Published value	70	70 Kilowatts Plate D
structure of the F [1]	5918 W	structure of the F-5918-A 70 Kilowatts Plate Dissipation
structure of the F [2]	70 W	structure of the F-5918-A 70 Kilowatts Plate Dissipation



SOURCE OPERATING CONDITIONS

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1962 ITT Industrial and Transmitting Tubes

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1962 ITT INDUSTRIAL AND TRANSMITTING TUBES

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum full-rating frequency	22 MHz	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Cooling method	water	—

TUBE TINKER

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