



ELECTRONIC TUBE REFERENCE

14F8

Voltage - Dual Triode (similar high frequency) electronic tube

CONSOLIDATED TECHNICAL DATA

2 SECTIONS

CONSTRUCTION

TRIODE-TRIODE

High-frequency twin triode intended for Class-A amplifier service, with two similar medium-mu sections and published interelectrode capacitances suited to radio-frequency operation.

GENERAL CHARACTERISTICS

BASE DESIGNATION	8BW	BASE PINS	8
NOMINAL HEATER	12.6 V / 150 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION1 Triode	
TRANSCONDUCTANCE	0.0033 S
AMPLIFICATION FACTOR	48
MAXIMUM PLATE VOLTAGE	300 V
<i>Promoted from clearly identified printed ratings/characteristics; additional published operating points and capacitances retained in TUBE_SECTION_PARAMETER.</i>	

SECTION2 Triode	
TRANSCONDUCTANCE	0.0033 S
AMPLIFICATION FACTOR	48
MAXIMUM PLATE VOLTAGE	300 V
<i>Second physical triode section; added to align rows with SectionCount.</i>	

14F8 High-Frequency Twin Triode

Overview

The **14F8** is a high-frequency twin triode vacuum tube designed for amplification and signal processing applications. It features two independent triode sections housed within a single envelope, utilizing an indirectly heated cathode design. The tube is characterized by a 12.6 V heater rating and is optimized for Class A amplifier service, where it provides a relatively high amplification factor of 48.

Mechanical Specifications and Base Connections

The 14F8 is constructed with an indirectly heated cathode. It utilizes the **8BW** base connection configuration and is defined by the **9-32** outline drawing.

The heater is designed to operate under the following electrical specifications:

- **Heater Voltage:** 12.6 V
- **Heater Current:** 0.15 A
- **Calculated Heater Power:** 1.89 W (calculated as 12.6 V multiplied by 0.15 A)

Electrical Ratings and Class A Operating Points

The maximum rated plate voltage for the 14F8 is **300 V**.

For Class A amplifier service, the typical operating characteristics are specified per individual triode section. At the documented operating point, the parameters are as follows:

- **Plate Voltage:** 250 V
- **Cathode Bias Resistor:** 500 Ω
- **Plate Current:** 6.0 mA
- **Transconductance:** 3,300 μmhos (micromhos)
- **Amplification Factor:** 48

Using these typical operating values, several key parameters can be mathematically derived:

- **Calculated Grid Bias Voltage:** Under the specified operating conditions, the plate current of 6.0 mA flowing through the 500 Ω cathode resistor produces a calculated negative grid bias voltage of **3.0 V** (calculated as 0.006 A multiplied by 500 Ω).
- **Calculated Plate Resistance:** Although the plate resistance is not directly tabulated, applying the fundamental triode relationship (plate resistance equals amplification factor divided by transconductance) yields a calculated plate resistance of approximately **14,545 Ω** (calculated as 48 divided by 0.0033 S).

Interelectrode Capacitances

The interelectrode capacitances of the 14F8 are specified without an external shield. The capacitance values for the internal structure are:

- **Input Capacitance:** 2.8 pF (micromicrofarads)
- **Output Capacitance:** 1.4 pF (micromicrofarads)
- **Grid-to-Plate Capacitance:** 1.6 pF (micromicrofarads)

Technical Summary

The 14F8 is a high-frequency twin triode featuring a 12.6 V, 0.15 A heater, an 8BW base, and a maximum plate voltage rating of 300 V. Operating as a Class A amplifier, each section typically runs at a plate voltage of 250 V with a 500 Ω cathode bias resistor, drawing 6.0 mA of plate current. At this operating point, it exhibits a transconductance of 3,300 μmhos and an amplification factor of 48, making it a versatile choice for high-frequency voltage amplification.

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

195X General Electric Essential Characteristics

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

195X GENERAL ELECTRIC ESSENTIAL CHARACTERISTICS

Section 1 · Triode

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Input capacitance	2.8 pF	EachSection
Output capacitance	1.4 pF	EachSection
Grid-to-plate capacitance	1.6 pF	EachSection

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	250 V	ClassA;EachSection
Cathode resistor	500 Ω	ClassA;EachSection
Plate current	6 mA	ClassA;EachSection

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconductance	3300 μS	EachSection
Amplification factor	48	EachSection