



ELECTRONIC TUBE REFERENCE

14B6

Voltage - Triode (with diode, heptode or hexode) electronic tube

CONSOLIDATED TECHNICAL
DATA

3 SECTIONS

CONSTRUCTION

DIODE-DIODE-TRIODE

Double-diode high-mu triode for detector, AVC, and audio voltage-amplifier service. Its two diode sections provide signal and control-voltage rectification while the triode supplies substantial voltage gain following detection.

GENERAL CHARACTERISTICS

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

SECTION RATINGS

SECTION1 Diode

No fixed ratings recorded.

Published maximum ratings, operating characteristics, and continuation data reviewed.

SECTION2 Diode

No fixed ratings recorded.

Published maximum ratings, operating characteristics, and continuation data reviewed.

SECTION3 Triode	
PLATE RESISTANCE	91000 Ω
TRANSCONDUCTANCE	0.0011 S
AMPLIFICATION FACTOR	100
MAXIMUM PLATE VOLTAGE	300 V
<i>Published maximum ratings, operating characteristics, and continuation data reviewed.</i>	

14B6 — Duplex-Diode High-Mu Triode

The 14B6 is a loctal-base vacuum tube combining a high-mu triode and two independent diode units within a single envelope. It is designed primarily for use in receiving equipment as a combined detector, amplifier, and automatic volume control component. The tube features an indirectly heated cathode and is configured with a loctal base.

Physical Construction and Basing

The 14B6 is housed in a glass envelope with a loctal base. Its physical dimensions are characterized by a maximum diameter of 1-3/16 inches, a maximum overall length of 2-23/32 inches, and a maximum seated height of 2-1/8 inches.

The tube utilizes the 8W base connection diagram, which provides the following pin assignments when viewed from the bottom of the base:

Pin	Element	Connection
Pin 1	Heater	h
Pin 2	Triode Plate	a
Pin 3	Triode Grid	g
Pin 4	Cathode	k
Pin 5	Diode Plate 2	a''d
Pin 6	Diode Plate 1	a'd
Pin 7	Cathode	k
Pin 8	Heater	h

The heater connections are located at pins 1 and 8, while the cathode is accessible via pins 4 and 7. The triode section's control grid and plate are connected to pins 3 and 2, respectively. The two diode plates are connected to pins 5 and 6.

Heater and Maximum Ratings

The 14B6 is equipped with an indirectly heated cathode. The heater is designed to operate under the following nominal electrical conditions:

- **Heater Voltage:** 12.6 V
- **Heater Current:** 0.15 A

The maximum anode rating for the triode section is:

- **Maximum Plate Voltage:** 300 V

Class A Electrical Characteristics

The triode section of the 14B6 is designed for high-mu voltage amplification. The electrical characteristics under typical Class A amplifier operating conditions are documented at two distinct plate voltage levels:

Parameter	Operating Point A	Operating Point B
Plate Voltage	250 V	100 V
Negative Grid Voltage	2.0 V	1.0 V
Plate Current	0.9 mA	0.4 mA
Plate Resistance (Approximate)	91,000 _Ω	110,000 _Ω
Transconductance	1,100 _μ mhos	900 _μ mhos
Amplification Factor	100	100

At both operating points, the triode maintains a high amplification factor of 100, while the plate resistance increases and transconductance decreases at the lower plate voltage of 100 V.

Related Designations

The 14B6 is closely related to the [7B6](#) vacuum tube. For additional application and operating information beyond the basic ratings, reference is made to the [7B6](#) type, which shares similar electrical characteristics but may differ in heater configuration or other specific parameters.

Technical Summary

The 14B6 is a duplex-diode high-mu triode featuring a loctal base and an indirectly heated cathode. Operating with a 12.6 V, 0.15 A heater, it provides a high-mu triode section with an amplification factor of 100 alongside two independent diode sections. With a maximum plate voltage rating of 300 V, the triode section is capable of operating as a Class A amplifier, delivering transconductance up to 1,100 _μmhos and plate resistance of approximately 91,000 to 110,000 ohms depending on the operating point.

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 3 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum plate voltage	300 V	Published handbook rating
Plate voltage	250 V	ClassA
Control-grid bias	2 V	ClassA
Plate current	0.9 mA	ClassA

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate resistance	91000 ohm	Published handbook characteristic
Transconductance	1100 μ S	Published handbook characteristic
Amplification factor	100	Published handbook characteristic
Heater voltage	12.6 V	Published heater rating
Heater current	150 mA	Published heater rating