

ELECTRONIC TUBE REFERENCE

CONSOLIDATED TECHNICAL DATA

1832

1 SECTION
CONSTRUCTION
RECTIFIER

Rectifier - Half Wave electronic tube

Philips directly heated high-vacuum rectifier for AC power supplies, providing approximately 120 mA DC output for receiving and related electronic equipment.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	—
NOMINAL HEATER	4 V / 1.3 A	PARALLEL HEATER	— / —
HEATING	Direct	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION1 Rectifier	
MAXIMUM PLATE VOLTAGE	700 V
PEAK INVERSE VOLTAGE	700 V
NOMINAL OUTPUT CURRENT	120 mA
Directly heated half-wave high-vacuum rectifier.	

1832 — Half-Wave High-Vacuum Rectifier

The **1832** is a directly heated, half-wave high-vacuum rectifier tube designed primarily for use in A.C. mains receivers. Characterized by its single-anode (monoplaque) construction, the 1832 provides reliable high-voltage rectification in power supply circuits requiring moderate direct current output.

Mechanical Design and Base Configuration

The 1832 is constructed within a glass envelope with a maximum diameter of 60 mm. Depending on the specific manufacturing specifications, the maximum overall length of the tube is rated between 135 mm

and 145 mm (excluding pins, or with a maximum pin length of 18 mm).

The tube utilizes an H35 base (also identified with connection reference 14 or S V) featuring a 4-pin layout. The electrical connections are assigned as follows:

- **Pin 1:** Filament
- **Pin 8:** Filament
- **Pin 10:** Anode
- **Pin 3:** No Connection (NC)

Filament Ratings

The 1832 features a directly heated filament designed for operation from an alternating current (A.C.) supply. The filament parameters are:

Parameter	Value
Filament Voltage	4.0 V
Filament Current	Approx. 1.2 A to 1.3 A
Heating Method	Direct (A.C.)

Operating Conditions and Maximum Ratings

The 1832 is rated to operate under two primary high-voltage rectification conditions. To ensure safe operation and prevent damage to the filament and anode structures, specific circuit parameters must be maintained, including a minimum protective series resistance and a maximum filter capacitance.

Parameter	Condition A	Condition B
Maximum A.C. Anode Voltage	700 V R.M.S.	800 V R.M.S.
Maximum Rectified D.C. Current	120 mA	100 mA
Minimum Protective Series Resistance	200 ohms	200 ohms
Maximum Filter Capacitance	12 uF	12 uF

The inclusion of a minimum 200-ohm series resistance protects the tube from excessive peak currents, while the filter input capacitance must not exceed 12 uF to limit the turn-on surge and steady-state peak currents.

Rectification and Anode Characteristics

The performance of the 1832 under typical load conditions is illustrated by its rectified output voltage versus load current curves, measured with a 12 uF filter capacitor and a 200-ohm protective series resistor.

Rectified Output Voltage vs. Load Current

The output voltage decreases as the load current increases from 0 to 120 mA, reflecting the internal resistance of the rectifier and the supply circuit:

- **At 700 V R.M.S.:** The rectified output voltage starts at approximately 980 V to 990 V under no-load conditions (0 mA) and drops to approximately 670 V to 720 V at a full load of 120 mA.
- **At 600 V R.M.S.:** The output voltage ranges from approximately 840 V to 850 V at 0 mA and decreases to approximately 570 V to 600 V at 120 mA.
- **At 500 V R.M.S.:** The output voltage starts at approximately 700 V at 0 mA and falls to approximately 400 V to 480 V at 120 mA.

Anode Current vs. Anode Voltage

At the nominal filament voltage of 4.0 V, the relationship between the direct anode current and direct anode voltage is nearly linear in the lower operating region:

- At an anode voltage of 40 V, the anode current is approximately 160 mA.
- At an anode voltage of 60 V, the anode current reaches approximately 240 mA (with the characteristic curve shown as a dashed line above 45 V or 180 mA, indicating an area of high dissipation or peak-only operation).

Technical Summary

The **1832** is an H35-based, directly heated half-wave high-vacuum rectifier tube. Operating with a 4.0 V filament supply at approximately 1.2 to 1.3 A, it is capable of delivering up to 120 mA of rectified current at an A.C. input voltage of 700 V R.M.S., or up to 100 mA at 800 V R.M.S. When configured with a maximum filter capacitance of 12 uF and a minimum protective series resistance of 200 ohms, the 1832 provides stable high-voltage D.C. outputs for A.C. mains receivers.



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1938 Philips Miniwatt Vacuum Tube Catalog

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

1938 PHILIPS MINIWATT VACUUM TUBE CATALOG

Section 1 · Rectifier

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum AC no-load voltage per plate	700 V	HalfWave
Maximum DC output current	120 mA	HalfWave



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1957 Philips Receiving and Amplifying Tubes

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

1957 PHILIPS RECEIVING AND AMPLIFYING TUBES

Section 1 · Rectifier

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum Rectified Output Current	120 mA	—
Peak/AC Input Voltage	700 V	Source table



1999 Philips 0-D

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

1999 PHILIPS 0-D
Section 1 · Rectifier

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	40 V	Nominal
Heater current	1.2 A	Nominal
A.C. anode voltage	700 V	Maximum
Rectified current	120 mA	Maximum

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