



5AU4

TWIN DIODE

FOR FULL-WAVE POWER RECTIFIER APPLICATIONS

DESCRIPTION AND RATING

The 5AU4 is a filamentary full-wave high-vacuum rectifier designed for use in the power supply of television receivers and other equipments which have high output current requirements. In full-wave operation with a supply voltage of 300 volts RMS, the 5AU4 is capable of delivering a d-c output current of 350 milliamperes.

GENERAL

Cathode—Coated Filament
 Filament Voltage, AC or DC..... 5.0 Volts
 Filament Current..... 3.75 Amperes
 Envelope—T-12, Glass
 Base—B8-114, Octal 8-Pin
 Mounting Position—Vertical*

MAXIMUM RATINGS

RECTIFIER SERVICE†—DESIGN-CENTER VALUE‡
 Peak Inverse Plate Voltage..... 1400 Volts
 AC Plate-Supply Voltage per Plate—See Rating Chart 1 §
 Steady-State Peak Plate Current per Plate..... 1075 Milliamperes
 Transient Peak Plate Current per Plate,
 Maximum Duration 0.2 Second..... 5.25 Amperes
 DC Output Current—See Rating Chart 1 §

CHARACTERISTICS AND TYPICAL OPERATION

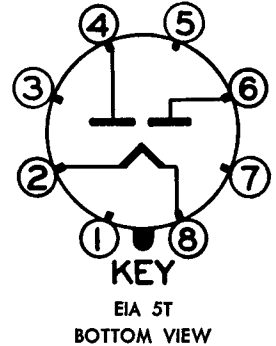
FULL-WAVE RECTIFIER WITH CAPACITOR-INPUT FILTER
 AC Plate-Supply Voltage per Plate, RMS..... 300 400 Volts
 Filter Input Capacitor..... 40 40 Microfarads
 Total Plate-Supply Resistance per Plate..... 30 50 Ohms
 DC Output Current..... 350 325 Milliamperes
 DC Output Voltage at Filter Input..... 275 395 Volts

FULL-WAVE RECTIFIER WITH CHOKE-INPUT FILTER
 AC Plate-Supply Voltage per Plate, RMS..... 500 Volts
 Filter Input Choke..... 10 Henrys
 DC Output Current..... 325 Milliamperes
 DC Output Voltage at Filter Input..... 395 Volts

AVERAGE CHARACTERISTICS

Tube Voltage Drop
 $I_b = 350$ Milliamperes DC per Plate..... 50 Volts

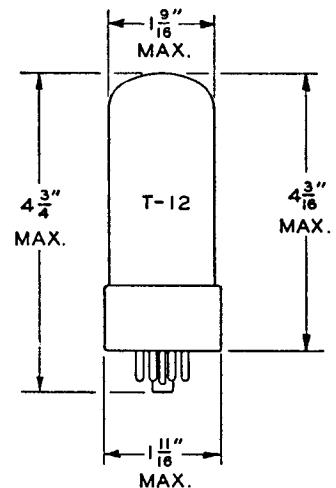
BASING DIAGRAM



TERMINAL CONNECTIONS

- Pin 1—No Connection
- Pin 2—Filament
- Pin 3—No Connection
- Pin 4—Plate Number 2
- Pin 5—No Connection
- Pin 6—Plate Number 1
- Pin 7—No Connection
- Pin 8—Filament

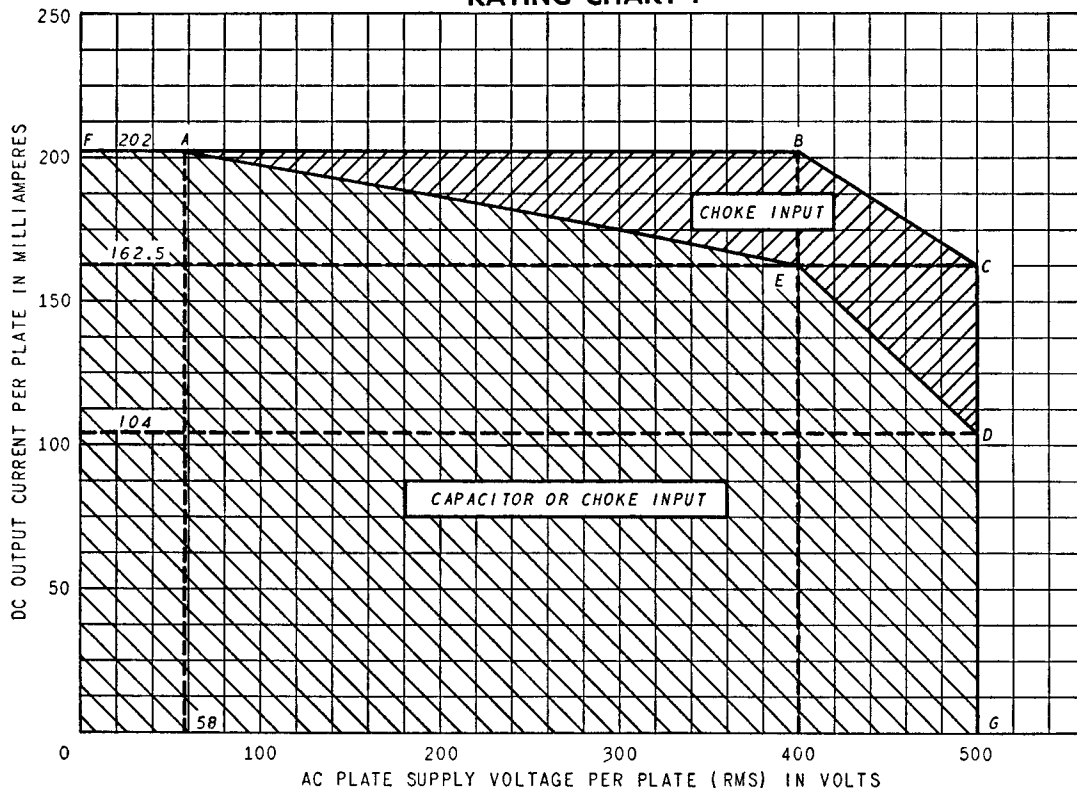
PHYSICAL DIMENSIONS



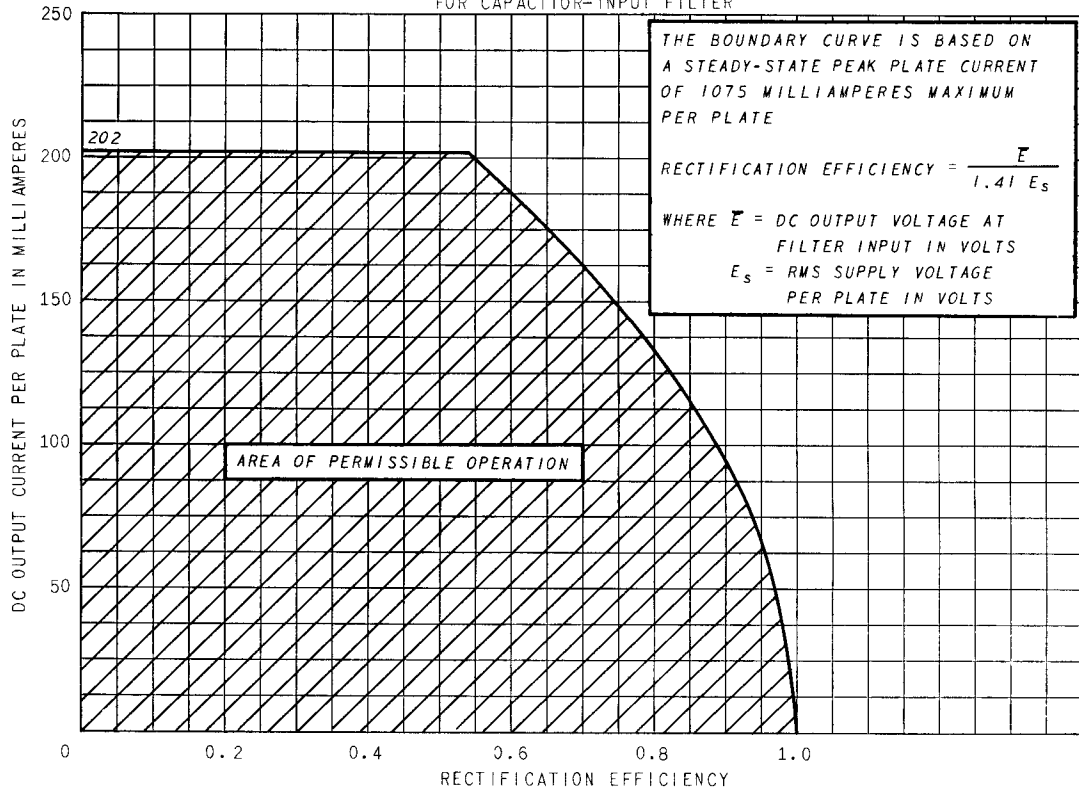
Δ Supersedes page 1 dated 2-54

- * Horizontal operation is permitted if pins 2 and 4 are in a vertical plane.
 - † For use with sinusoidal supply voltages within the frequency range of 25 to 1000 cycles per second.
 - ‡ To simplify the application of the maximum ratings to circuit design, the electrical design-center maximum ratings are also presented in chart form as Rating Charts I, II, and III. Rating Chart I presents the maximum ratings for a-c plate supply voltage and d-c output current. Rating Chart II provides a convenient method for checking conformance with the maximum steady-state peak-plate-current rating. Rating Chart III offers a convenient method for checking conformance with the maximum transient peak-plate-current rating.
 - § With a capacitor-input filter, the conditions of each of Rating Charts I, II, and III must be satisfied in order to obtain performance within all of the appropriate electrical maximum ratings. With a choke-input filter, operation within the indicated boundary of Rating Chart I will assure performance within all of the appropriate electrical maximum ratings.
- The maximum ratings for a-c plate supply voltage and d-c output current are interrelated and are also dependent on whether a choke- or capacitor-input filter is employed. This relationship is shown in Rating Chart I. With a capacitor-input filter, the operating point of d-c output current and a-c supply voltage must fall within the curve FAEDG. With a choke-input filter, the operating point must fall within the curve FABCDG.

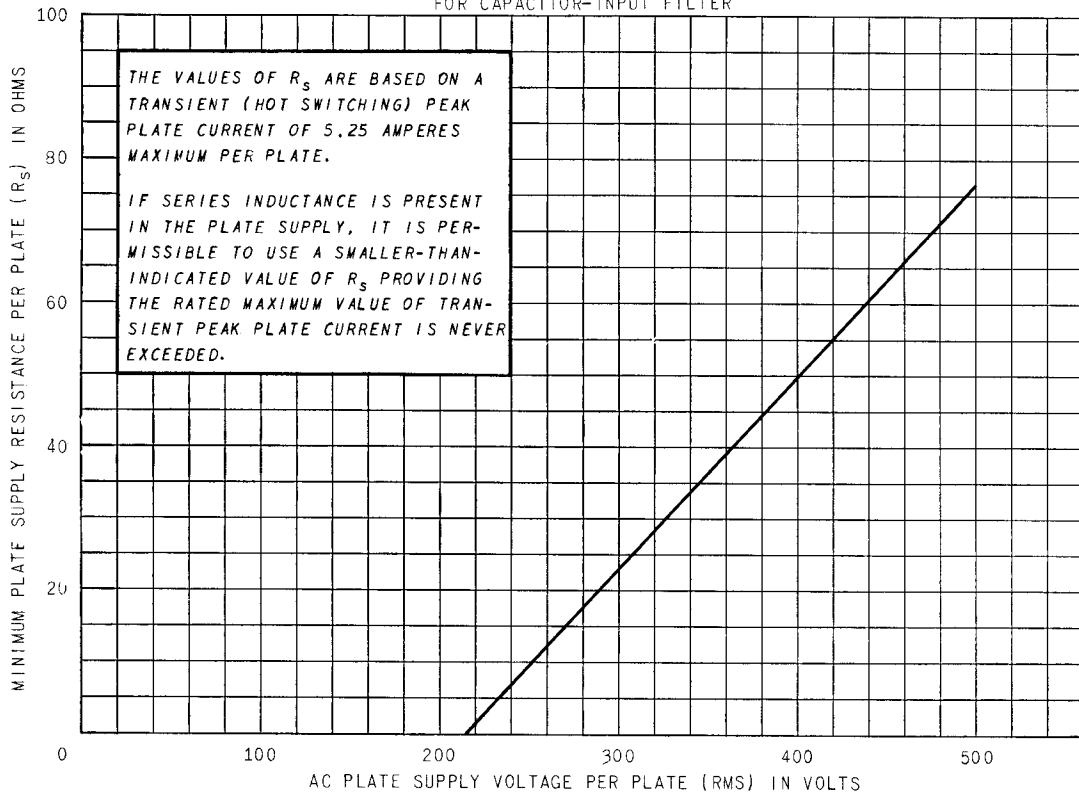
RATING CHART I



RATING CHART II
FOR CAPACITOR-INPUT FILTER

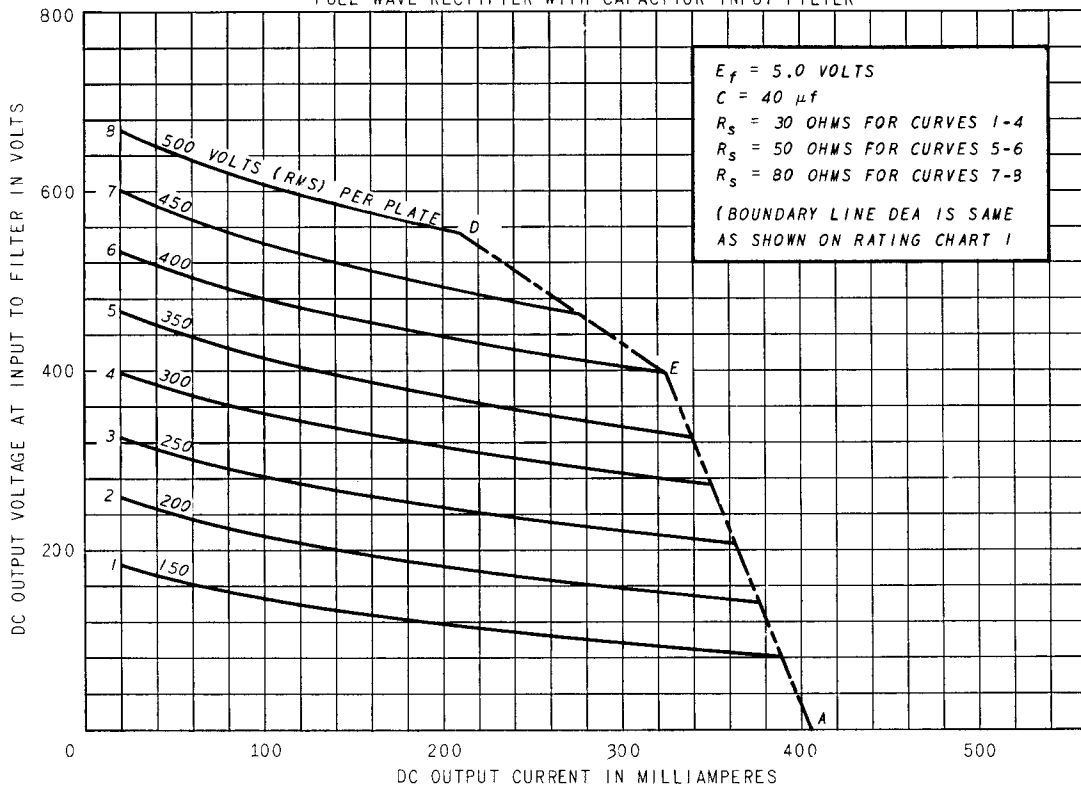


RATING CHART III
FOR CAPACITOR-INPUT FILTER



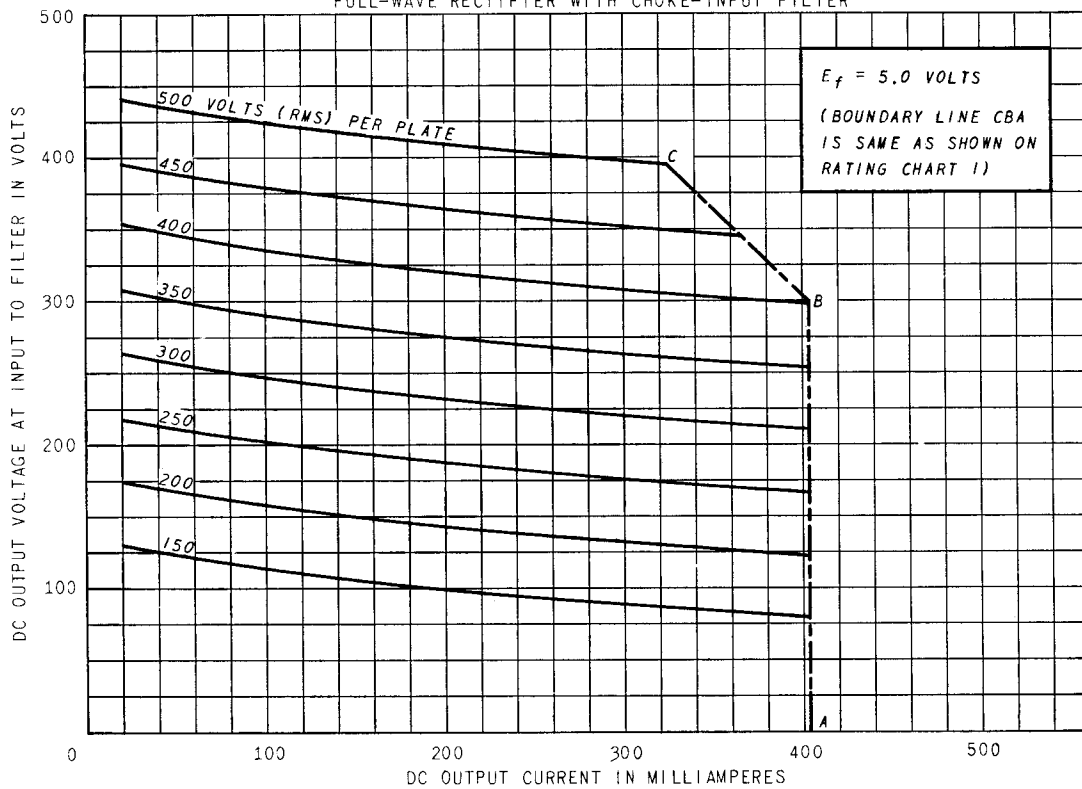
OPERATION CHARACTERISTICS

FULL-WAVE RECTIFIER WITH CAPACITOR-INPUT FILTER



OPERATION CHARACTERISTICS

FULL-WAVE RECTIFIER WITH CHOKE-INPUT FILTER



AVERAGE PLATE CHARACTERISTICS

EACH SECTION

