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5U4-GB

5U4-GB
 ET-T1255
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TWIN DIODE

FOR FULL-WAVE POWER RECTIFIER APPLICATIONS

DESCRIPTION AND RATING

The 5U4-GB is a filamentary twin diode designed for use as a full-wave rectifier in the power supply of television receivers or other equipment which have high direct-current requirements. The 5U4-GB employs a straight-sided T-12 envelope and may be used as a replacement for either the 5U4-G or 5U4-GA.

GENERAL

ELECTRICAL

Cathode—Coated Filament
 Filament Voltage, AC or DC.....5.0 Volts
 Filament Current.....3.0 Amperes

MECHANICAL

Mounting Position—Vertical*
 Envelope—T-12, Glass
 Base—B5-121 or B5-113, Short Medium Shell Octal 5-Pin
 or B5-127, Flared Medium Shell Octal 5-Pin
 or B8-118, Short Medium Shell Octal 8-Pin

MAXIMUM RATINGS

RECTIFIER SERVICE—DESIGN-CENTER VALUES†

Peak Inverse Plate Voltage.....1550 Volts
 AC Plate-Supply Voltage per Plate—See Rating Chart I‡
 Steady-State Peak Plate Current per Plate.....1000 Milliamperes
 Transient Peak Plate Current per Plate,
 Maximum Duration 0.2 Second.....4.6 Amperes
 DC Output Current—See Rating Chart I‡

CHARACTERISTICS AND TYPICAL OPERATION

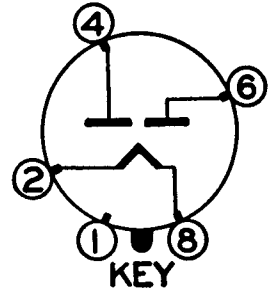
FULL-WAVE RECTIFIER WITH CAPACITOR-INPUT FILTER

AC Plate-Supply Voltage per Plate, RMS.....	300	450 Volts
Filter Input Capacitor.....	40	40 Microfarads
Total Plate-Supply Resistance per Plate.....	21	67 Ohms
DC Output Current.....	300	275 Milliamperes
DC Output Voltage at Filter Input.....	290	460 Volts

FULL-WAVE RECTIFIER WITH CHOKE-INPUT FILTER

AC Plate-Supply Voltage per Plate, RMS.....	550 Volts
Filter Input Choke.....	10 Henrys
DC Output Current.....	275 Milliamperes
DC Output Voltage at Filter Input.....	440 Volts
Tube Voltage Drop	
I _b = 275 Milliamperes DC per Plate.....	50 Volts

BASING DIAGRAM

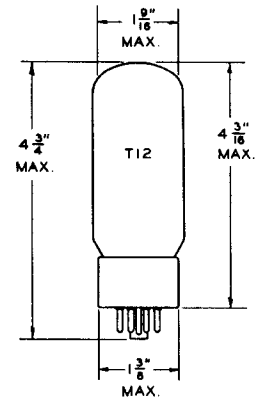


KEY
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TERMINAL CONNECTIONS

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

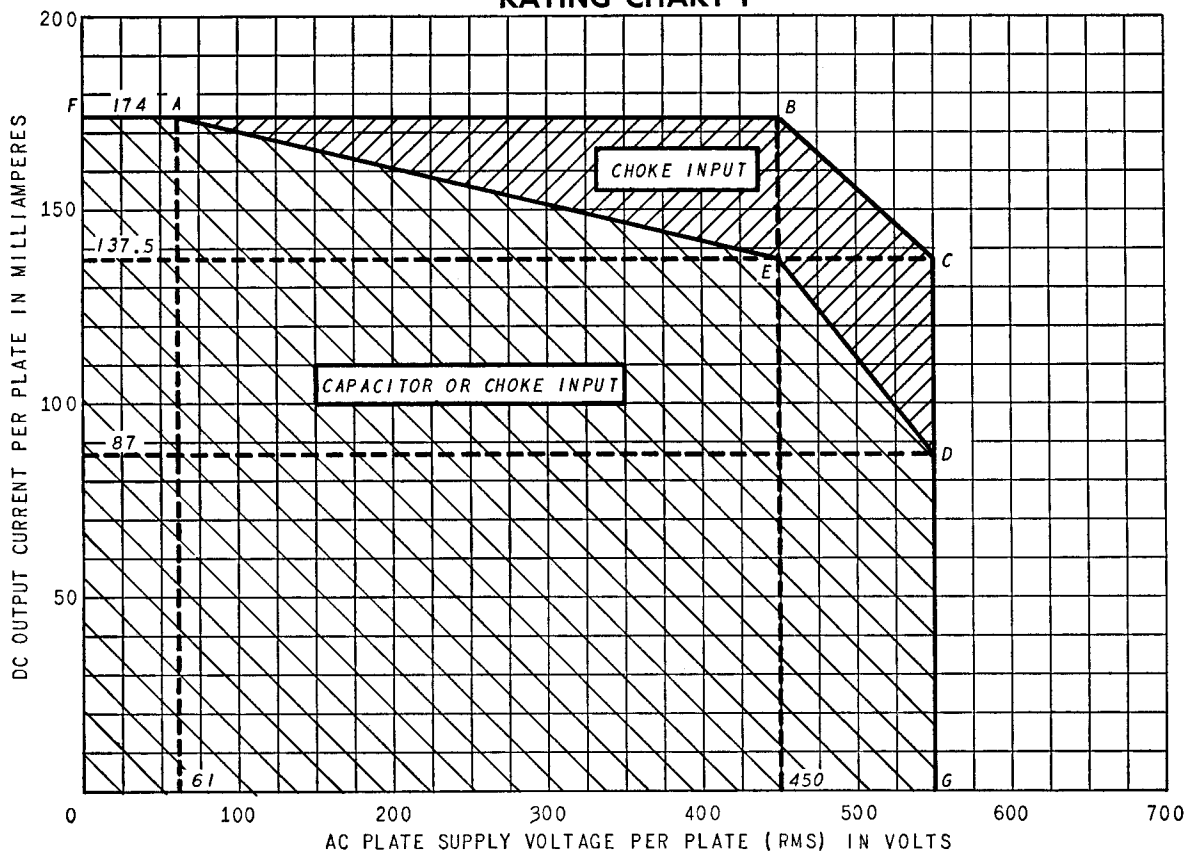
PHYSICAL DIMENSIONS



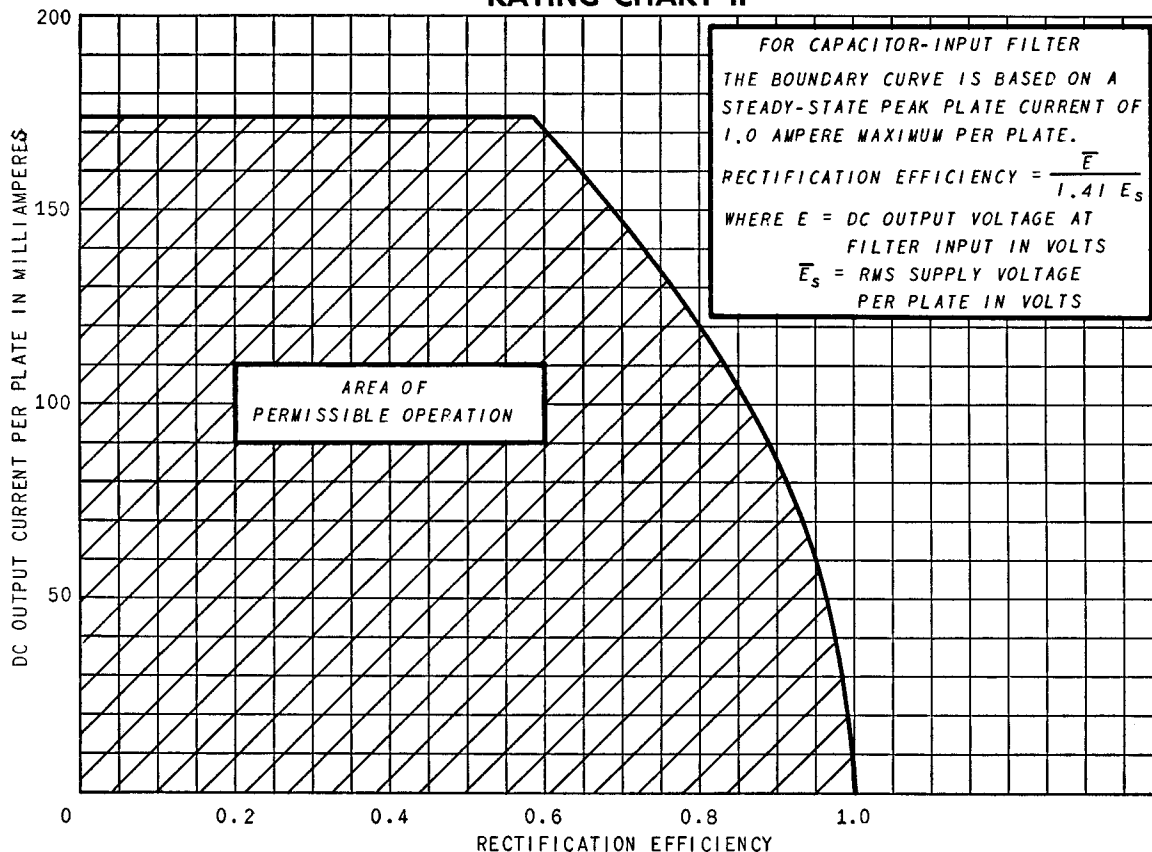
- * Horizontal operation is permitted if pins 1 and 4 are in a vertical plane.
- † To simplify the application of the maximum ratings to circuit design, the electrical design-center maximum ratings are also presented in chart form as Rating Charts I, II, and III. Rating Chart I presents the maximum ratings 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; with a choke-input filter, operation must be within the indicated boundary of Rating Chart I.
- ‡ 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.

NOTE: The indicated values of a-c plate-supply voltage shown throughout the data are measured without load.

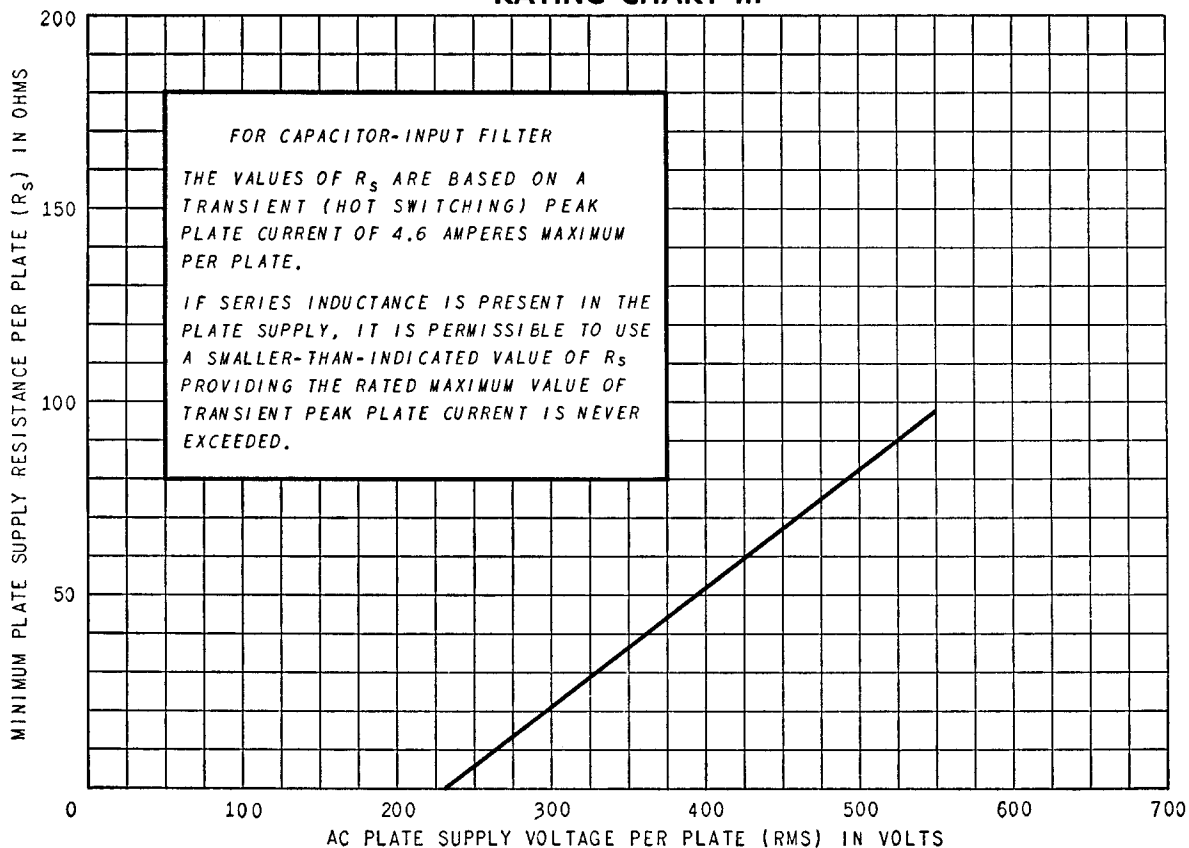
RATING CHART I



RATING CHART II

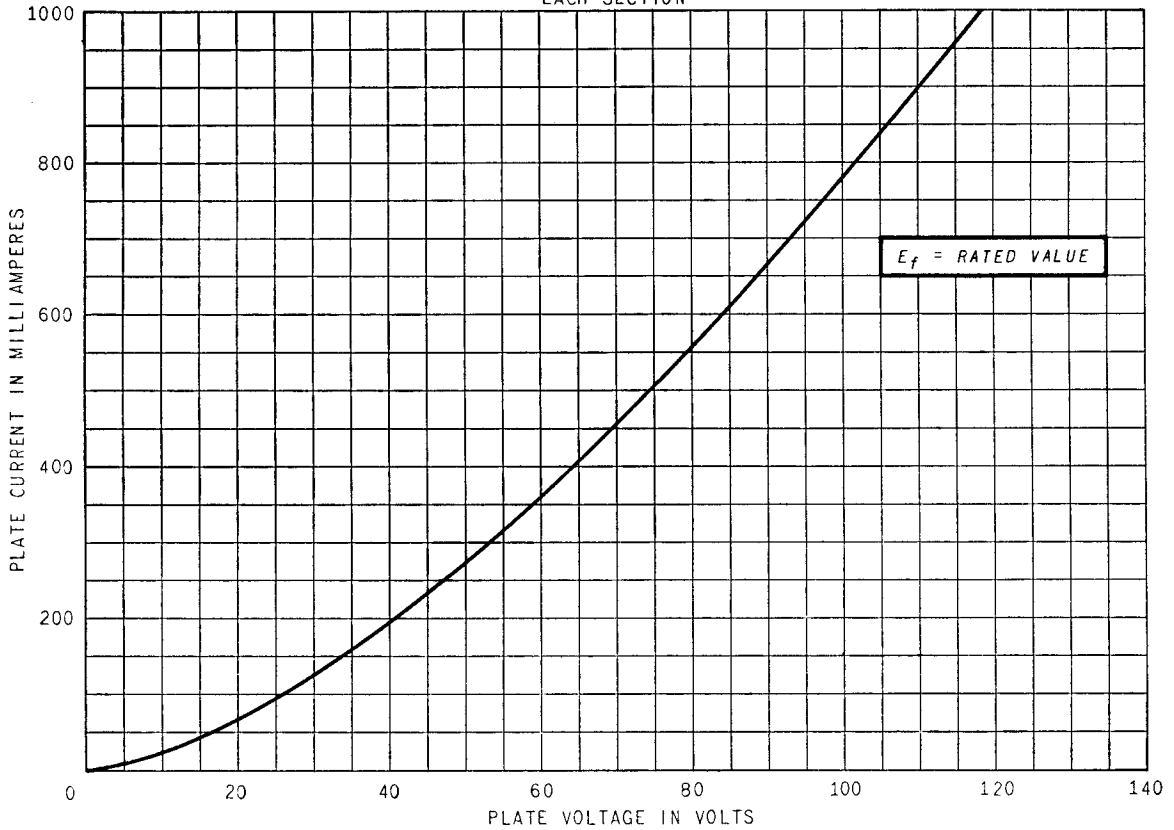


RATING CHART III



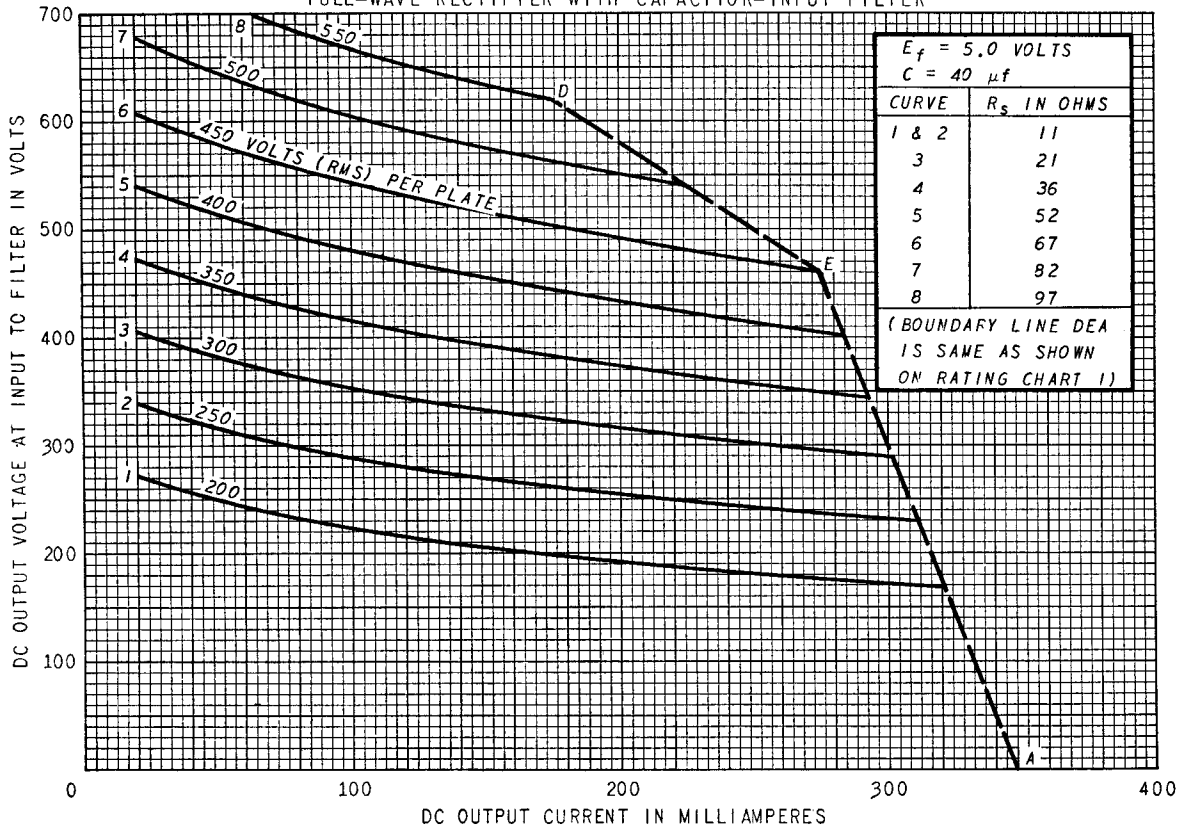
AVERAGE PLATE CHARACTERISTICS

EACH SECTION



OPERATION CHARACTERISTICS

FULL-WAVE RECTIFIER WITH CAPACITOR-INPUT FILTER



OPERATION CHARACTERISTICS
FULL-WAVE RECTIFIER WITH CHOKE-INPUT FILTER

