



# 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

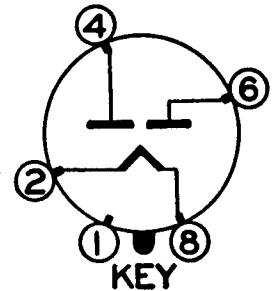
#### FULL-WAVE RECTIFIER WITH CAPACITOR-INPUT FILTER

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 <sub>b</sub> = 275 Milliamperes DC per Plate.....	50 Volts

### BASING DIAGRAM

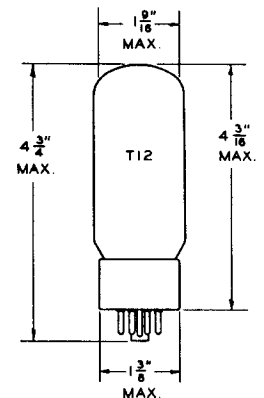


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### TERMINAL CONNECTIONS

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

### PHYSICAL DIMENSIONS



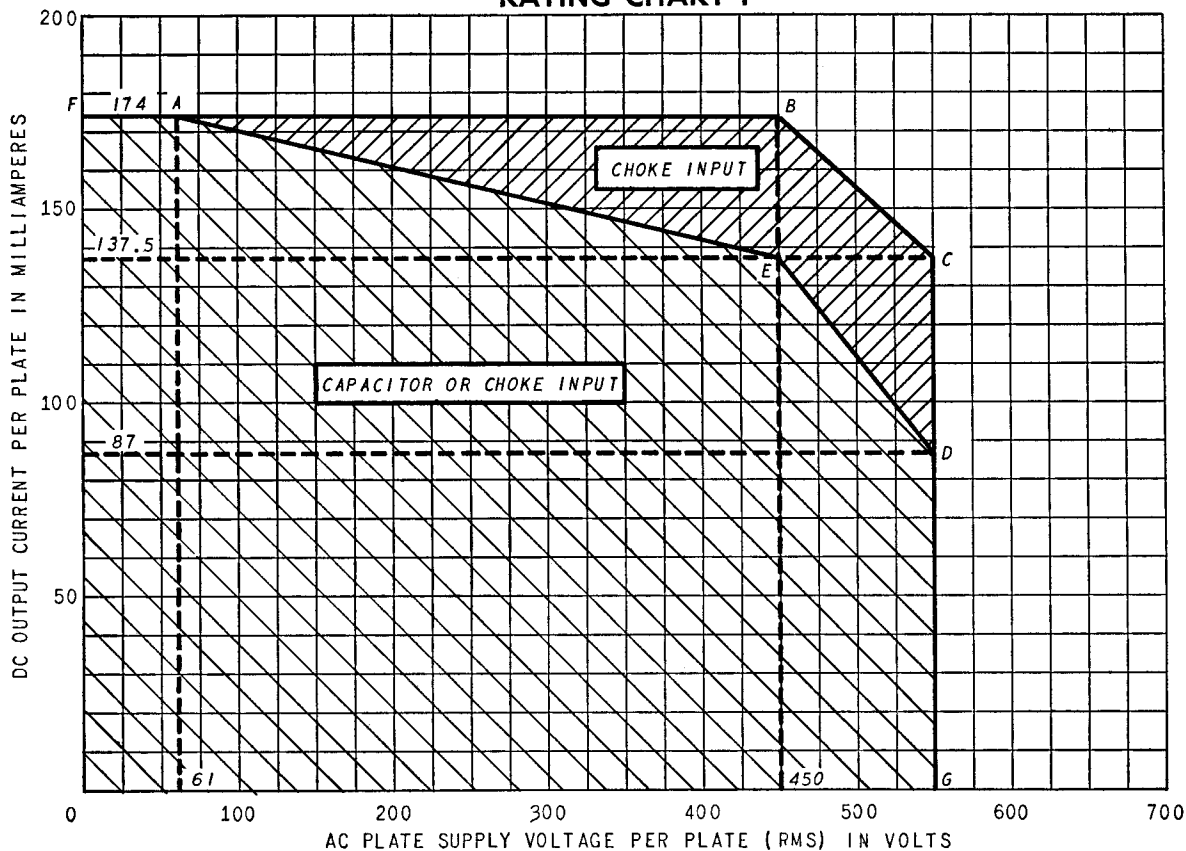
\* Horizontal operation is permitted if pins 1 and 4 are in a vertical plane.

† 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.

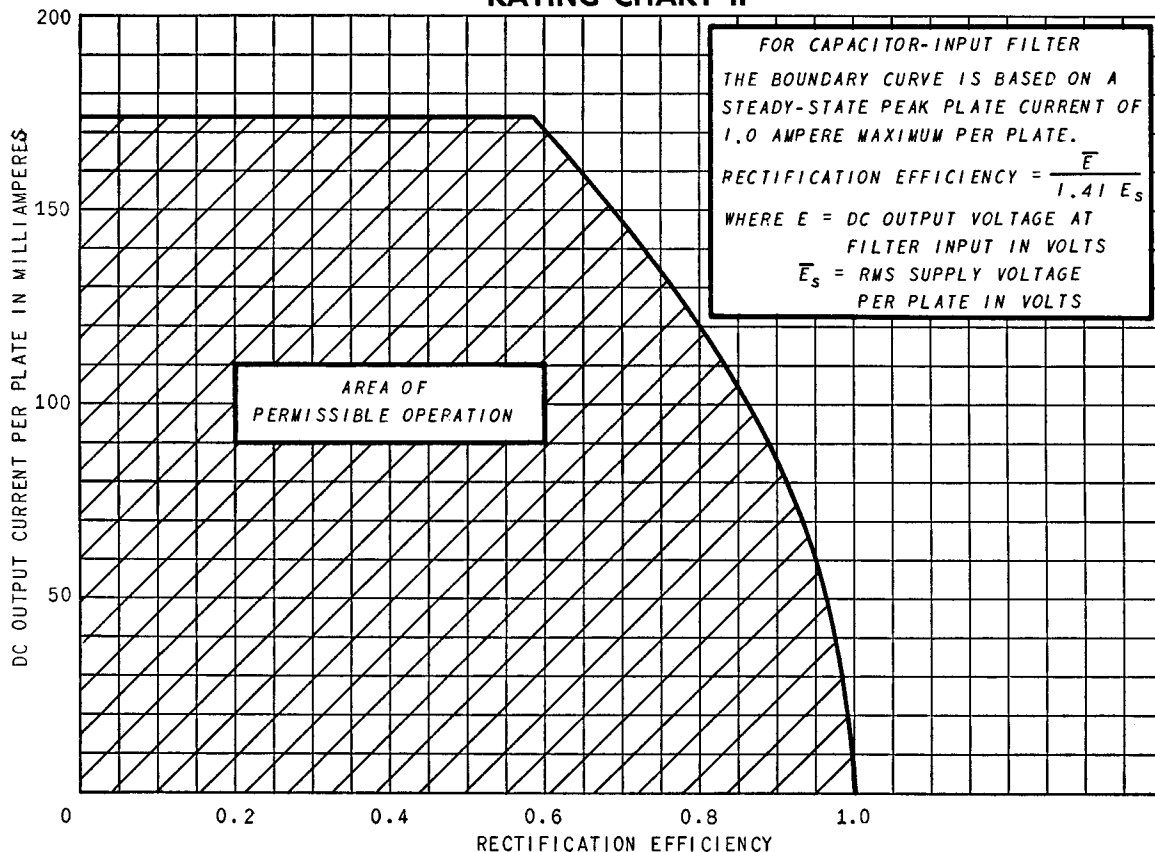
‡ The maximum ratings for a-c plate supply voltage and d-c output current are interrelated and are also dependent on whether a choke- or capacitor-input filter is employed. This relationship is shown in Rating Chart I. With a capacitor-input filter, the operating point of d-c output current and a-c supply 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.

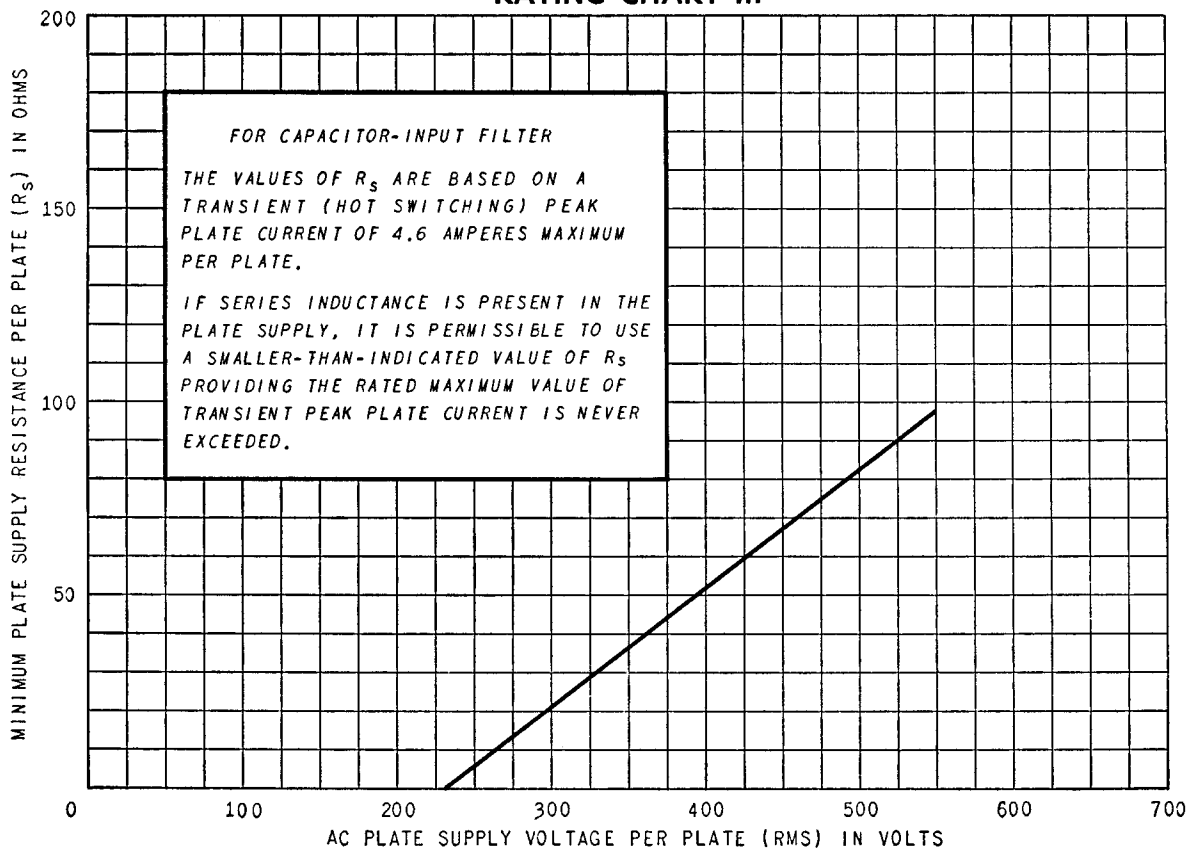
**RATING CHART I**



**RATING CHART II**

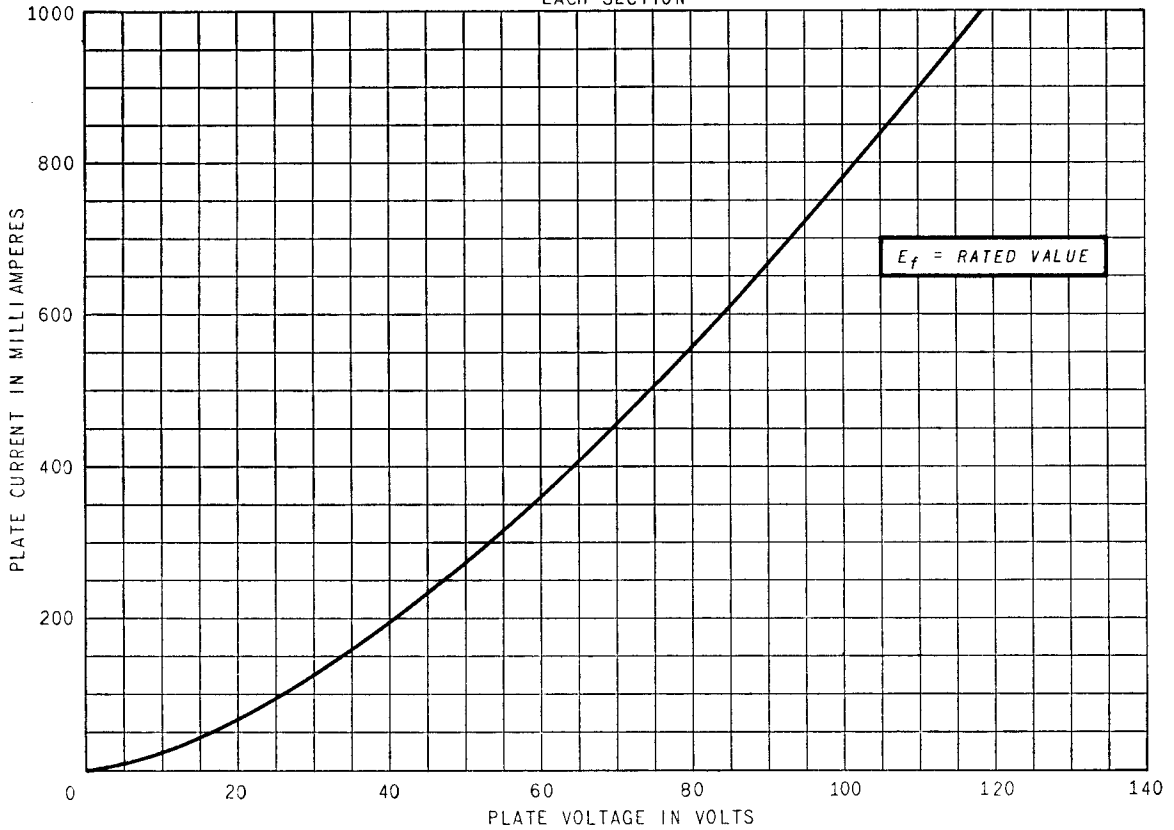


**RATING CHART III**



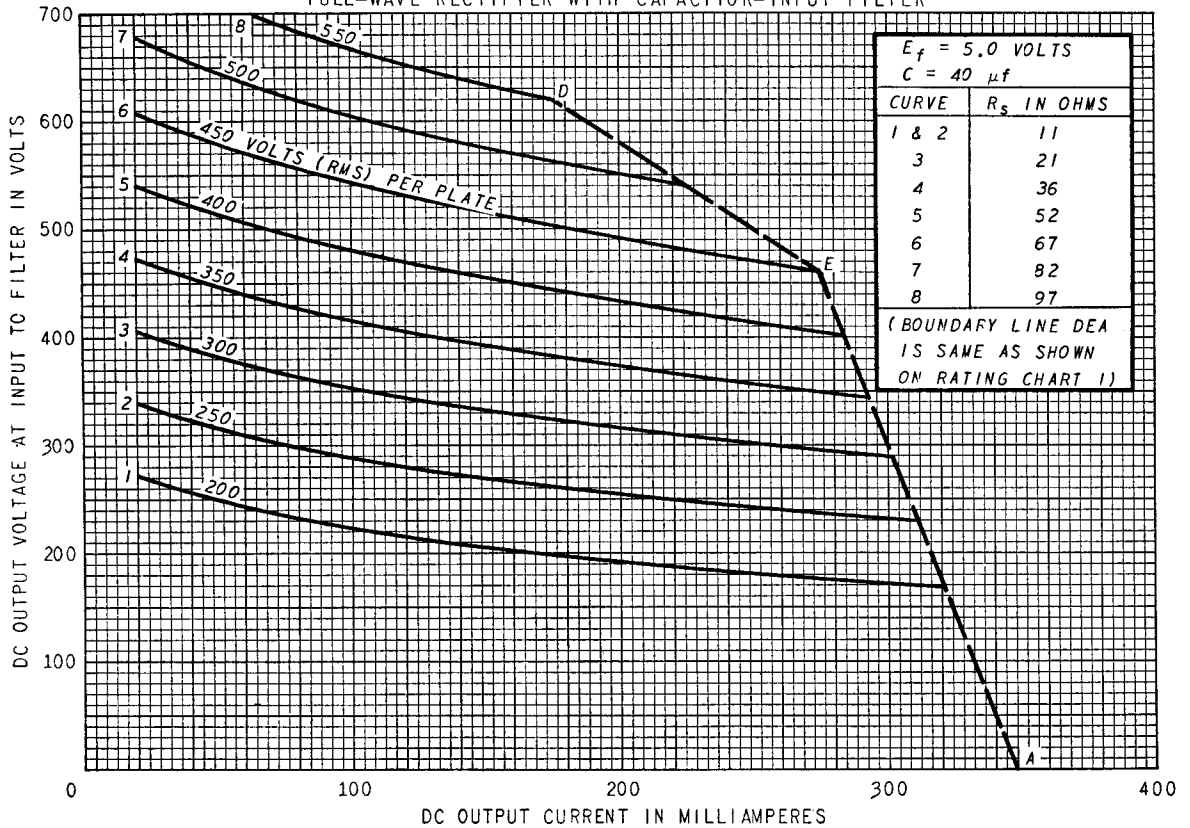
### AVERAGE PLATE CHARACTERISTICS

EACH SECTION



### OPERATION CHARACTERISTICS

FULL-WAVE RECTIFIER WITH CAPACITOR-INPUT FILTER



**OPERATION CHARACTERISTICS**  
FULL-WAVE RECTIFIER WITH CHOKE-INPUT FILTER

