



5U4-G

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FULL-WAVE VACUUM RECTIFIER**GENERAL DATA****Electrical:**

Filament, Coated:

Voltage. 5 ac volts
 Current. 3 amp

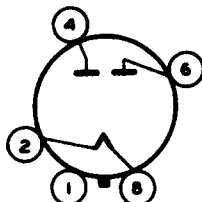
Mechanical:

Mounting Position. Vertical, or Horizontal with pins
 1 and 4 in vertical plane
 Maximum Overall Length 5-5/16"
 Maximum Seated Length. 4-3/4"
 Maximum Diameter 2-1/16"
 Bulb ST-16
 Base Medium-Shell Octal 5-Pin
 Basing Designation for BOTTOM VIEW G-5T

Pin 1-No Connection

Pin 2-Filament

Pin 4-Plate No.2



Pin 6-Plate No.1

Pin 8-Filament

FULL-WAVE RECTIFIER**Maximum Ratings, Design-Center Values:**

PEAK INVERSE PLATE VOLTAGE 1550 max. volts
 PEAK PLATE CURRENT PER PLATE 675 max. ma
 AC PLATE SUPPLY
 VOLTAGE (RMS) PER PLATE. See Rating Chart
 DC OUTPUT CURRENT PER PLATE. See Rating Chart
 HOT-SWITCHING TRANSIENT
 PLATE CURRENT PER PLATE
 For duration of 0.2 second maximum . . . 2.35 max. amp

Typical Operation with Capacitor-Input Filter:

AC Plate-to-Plate

Supply Voltage (RMS) 900 1100 volts
 Filter-Input Capacitor^o. 10 10 μ f

Total Effect. Plate-Supply

Impedance Per Plate. 170 230 ohms

DC Output Voltage at Input

to Filter (Approx.):

At Half-Load Cur.of { 112.5 ma. . 510 - volts
 78 ma. . - 660 volts
 At Full-Load Cur.of { 225 ma. . 430 - volts
 156 ma. . - 590 volts

Voltage Regulation, Half-Load

to Full-Load Current (Approx.) . 80 70 volts

^o When a filter input capacitor larger than 10 μ f is used, it may be necessary to increase the effective plate-supply impedance in order not to exceed the hot-switching transient plate current.

← Indicates a change.

MARCH 1, 1951

TUBE DEPARTMENT

RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

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FULL-WAVE VACUUM RECTIFIER

→ Typical Operation with Choke-Input Filter:

AC Plate-to-Plate

Supply Voltage (RMS)	900	1100	volts
Filter-Input Choke	10*	10**	henries

DC Output Voltage at Input
to Filter (Approx.):

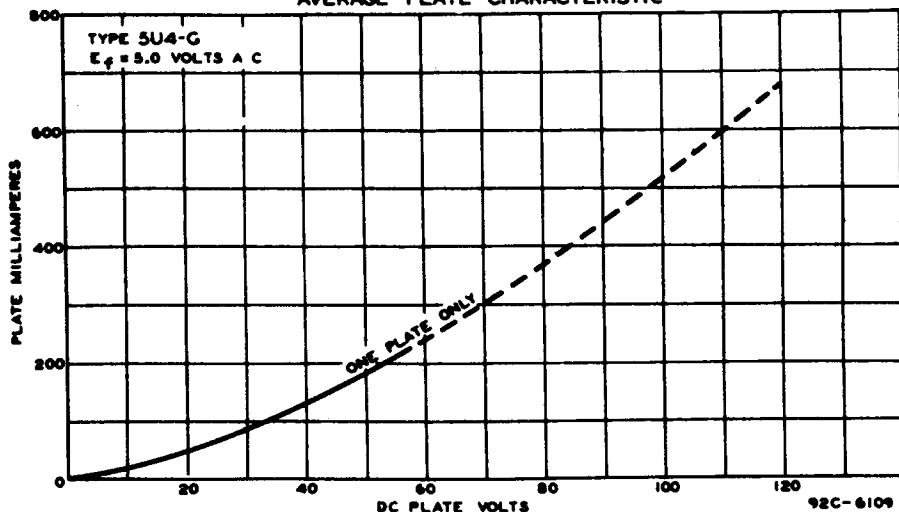
At Half-Load Cur. of	135 ma. .	365	-	volts
	112.5 ma. .	-	460	volts
At Full-Load Cur. of	270 ma. .	345	-	volts
	225 ma. .	-	440	volts

Voltage Regulation, Half-Load to Full-Load Current (Approx.) .	20	20	volts
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* This value is adequate to maintain optimum regulation in the region to the right of line L=10H on curve OPERATION CHARACTERISTICS with Choke-Input to Filter, provided the load current is not less than 35 ma. For load currents less than 35 ma., a larger value of inductance is required for optimum regulation.

** This value is adequate to maintain optimum regulation in the region to the right of line L=10H on curve OPERATION CHARACTERISTICS with Choke-Input to Filter, provided the load current is not less than 45 ma. For load currents less than 45 ma., a larger value of inductance is required for optimum regulation.

AVERAGE PLATE CHARACTERISTIC



→ RATING CHART and OPERATION CHARACTERISTICS

The *Rating Chart* presents graphically the relationships between maximum ac voltage input and maximum dc output current derived from the fundamental ratings for conditions of capacitor-input and choke-input filters. This graphical presentation gives the equipment designer considerable latitude in choice of operating conditions.

The *Operation Characteristics for Full-Wave Circuit with Capacitor-Input Filter* show not only the typical operating curves for such a circuit, but also show by means of boundary lines "ADK" the limiting current and voltage relationships presented on the Rating Chart.

→ Indicates a change.



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FULL-WAVE VACUUM RECTIFIER

The *Operation Characteristics for Full-Wave Circuit with Choke-Input Filter* show the typical operating curves for such a circuit. They not only show by means of boundary line "CEK" the limiting current and voltage relationships presented on the *Rating Chart*, but also give information as to the effect on regulation of various sizes of chokes. The solid-line curves show the dc voltage outputs which would be obtained if the filter chokes had infinite inductance. The long-dash lines radiating from the zero position are boundary lines for various sizes of chokes as indicated. The intersection of one of these lines with a solid-line curve indicates the point on the curve at which the choke no longer behaves as though it had infinite inductance. To the left of the choke boundary line, the regulation curves depart from the solid-line curves as shown by the representative short-dash regulation curves.

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5U4-G RATING CHART

$E_f = 5.0$ VOLTS



CAPACITOR OR
CHOKE INPUT
CHOKE INPUT
ONLY



FOR SUITABLE CHOKE VALUES,
SEE CURVE

"OPERATION CHARACTERISTICS
WITH CHOKE INPUT TO FILTER"

DC OUTPUT MILLIAMPERES PER PLATE

160

120

80

40

0

200

400

600

800

AC PLATE SUPPLY VOLTS (RMS) PER PLATE

MAX. OPERATING
WITH CHOKE INPUT

MAX. OPERATING
WITH CAPACITOR INPUT

VALUES
TO FILTER

VALUES
TO FILTER

MAY 25, 1950

TUBE DEPARTMENT

RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

92CM-7494