5U4-G

FULL-WAVE VACUUM RECTIFIER

GENERAL DATA

Electrical:

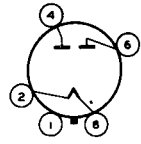
Filament, Coated:

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°	10	10	μf
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
At Half-Load Cur. of 78 ma.	–	660	volts
At Full-Load Cur. of 225 ma.	430	–	volts
At Full-Load Cur. of 156 ma.	–	590	volts
Voltage Regulation, Half-Load to Full-Load Current (Approx.)	80	70	volts

° When a filter input capacitor larger than 10 μf 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.

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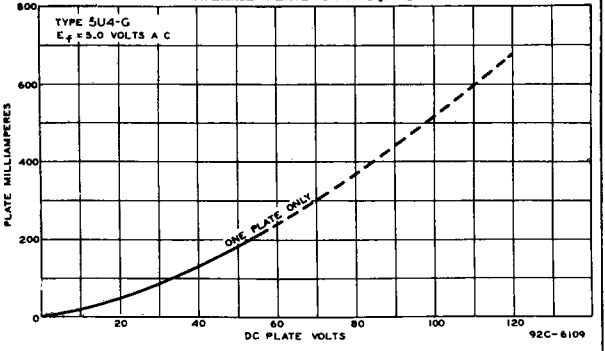
→ **Typical Operation with Choke-Input Filter:**

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
At Half-Load Cur. of 112.5 ma.	–	460	volts
At Full-Load Cur. of 270 ma.	345	–	volts
At Full-Load Cur. of 225 ma.	–	440	volts
Voltage Regulation, Half-Load to Full-Load Current (Approx.)	20	20	volts

* 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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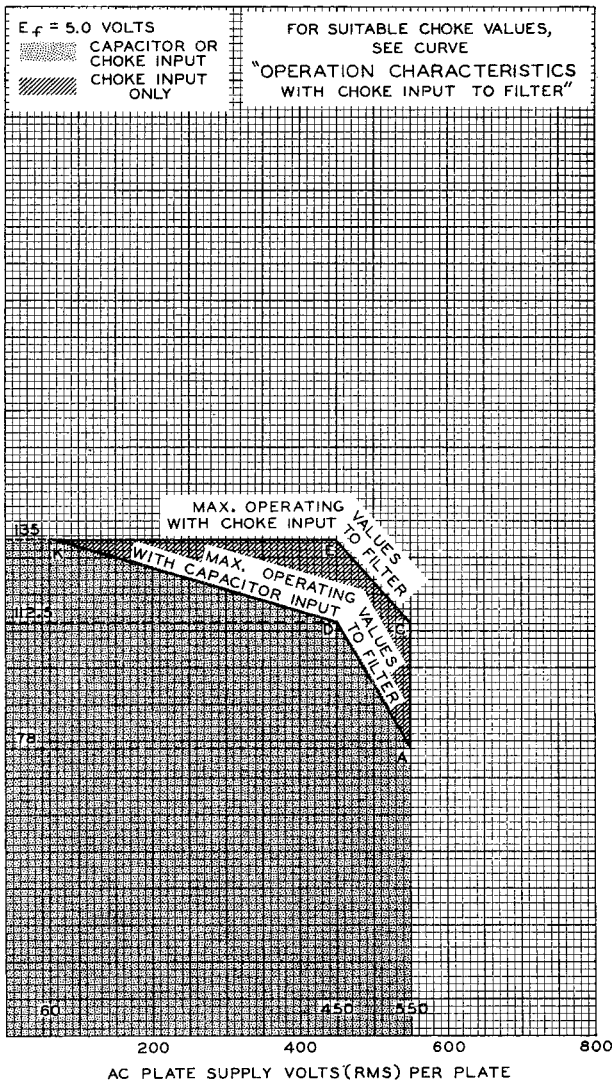
RATING CHART



RCA

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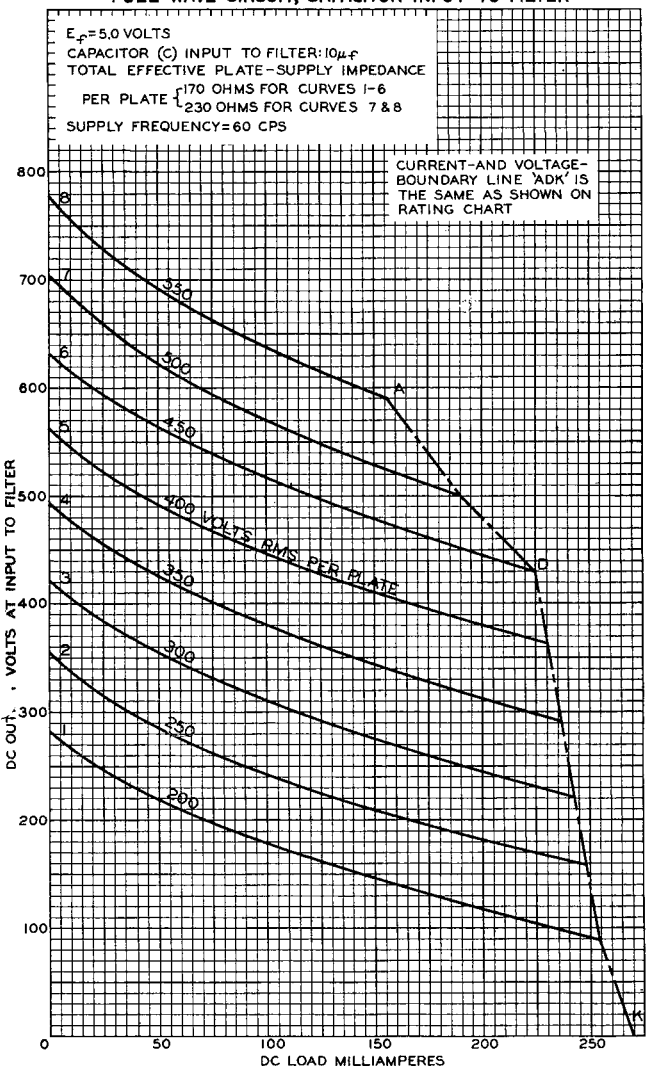
OPERATION CHARACTERISTICS

FULL-WAVE CIRCUIT, CAPACITOR INPUT TO FILTER



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RCA

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OPERATION CHARACTERISTICS
FULL-WAVE CIRCUIT, CHOKE INPUT TO FILTER