6AX5-GT

FULL-WAVE VACUUM RECTIFIER

GENERAL DATA

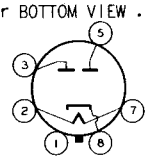
Electrical:

Heater, for Unipotential Cathode:		
Voltage	6.3	ac volts
Current	1.2	amp

Mechanical:

Mounting Position	Any
Maximum Overall Length	3-5/16"
Maximum Seated Length	2-3/4"
Maximum Diameter	1-9/32"
Bulb	T-9
Base	Short-Intermediate-Shell Octal 6-Pin
Basing Designation for BOTTOM VIEW	G-6S

Pin 1 - No Connection
Pin 2 - Heater
Pin 3 - Plate of Diode No.2
Pin 5 - Plate of Diode No.1
Pin 7 - Heater
Pin 8 - Cathode



FULL-WAVE RECTIFIER

Maximum Ratings, *Design-Center Values*:

PEAK INVERSE PLATE VOLTAGE	1250 max.	volts
PEAK PLATE CURRENT PER PLATE	375 max.	ma
HOT-SWITCHING TRANSIENT PLATE CURRENT For duration of 0.2 second maximum	2.6 max.	amp
AC PLATE SUPPLY VOLTAGE (RMS) PER PLATE	See Rating Chart	
DC OUTPUT CURRENT PER PLATE	See Rating Chart	
PEAK HEATER-CATHODE VOLTAGE:		
Heater negative with respect to cathode	450 max.	volts
Heater positive with respect to cathode	450 max.	volts

Typical Operation with Capacitor-Input Filter:

AC Plate-to-Plate Supply Voltage (RMS)	700	900	volts
Filter-Input Capacitor▲	10	10	μf
Effective Plate-Supply Impedance Per Plate	50	105	ohms
DC Output Voltage at Input to Filter (Approx.):			
At half-load cur. of 62.5 ma.	395	–	volts
At half-load cur. of 40 ma.	–	540	volts
At full-load cur. of 125 ma.	350	–	volts
At full-load cur. of 80 ma.	–	490	volts
Voltage Regulation (Approx.):			
Half-load to full-load current	45	50	volts

▲ Higher values of capacitance than indicated may be used but the effective plate supply impedance may have to be increased to prevent exceeding the maximum rating for hot-switching transient plate current.

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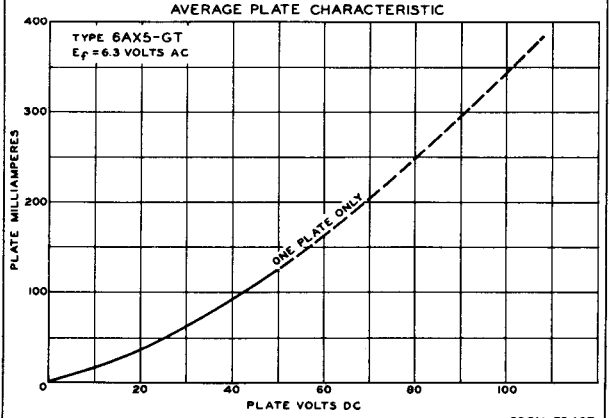
Typical Operation with Choke-Input Filter:

AC Plate-to-Plate Supply Voltage (RMS)	700	900	volts
Filter-Input Choke	10	10	henries
DC Output Voltage at Input to Filter (Approx.):			
At half-load cur. of 75 ma.	270	–	volts
At half-load cur. of 62.5 ma.	–	365	volts
At full-load cur. of 150 ma.	250	–	volts
At full-load cur. of 125 ma.	–	350	volts
Voltage Regulation (Approx.):			
Half-load to full-load Current	20	15	volts



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.

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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 has 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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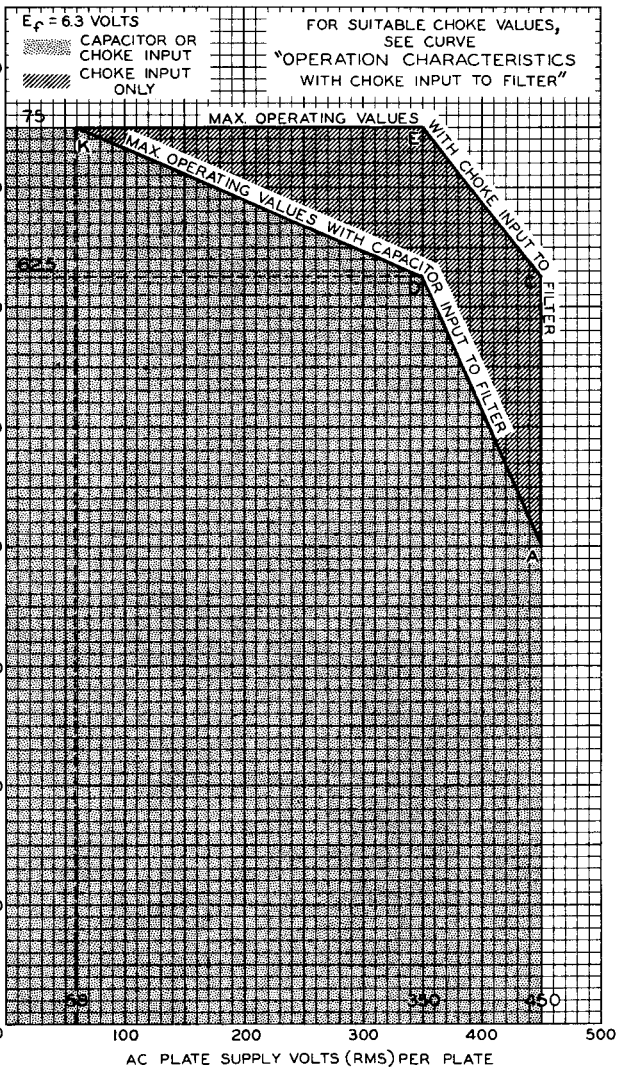
RATING CHART



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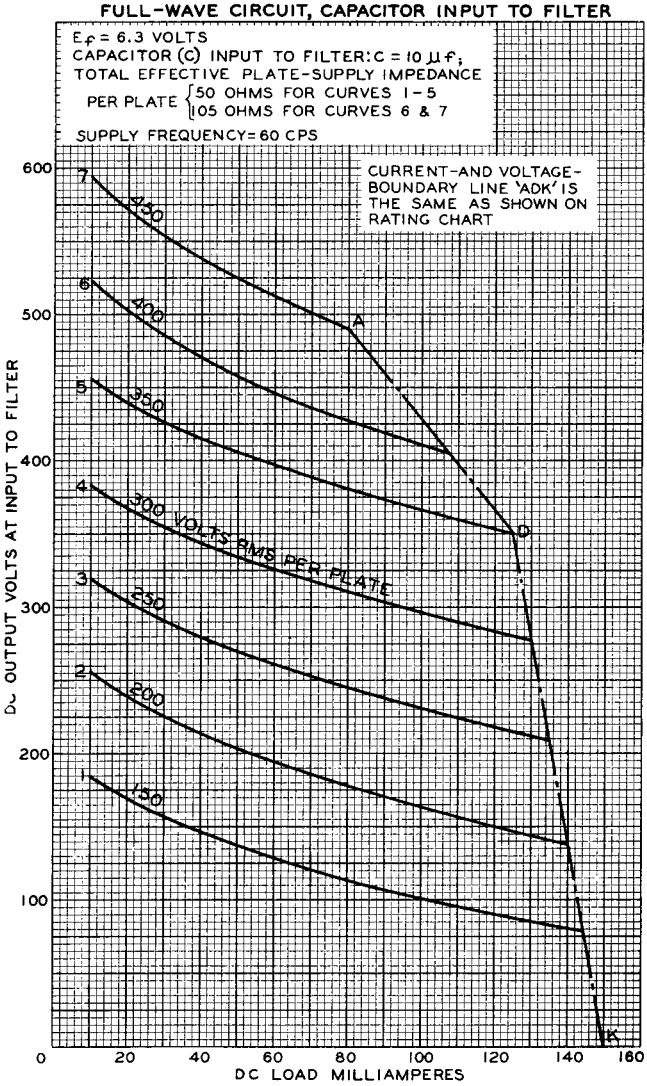
OPERATION CHARACTERISTICS

FULL-WAVE CIRCUIT, CAPACITOR INPUT TO FILTER



RCA

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OPERATION CHARACTERISTICS

FULL-WAVE CIRCUIT, CHOKE INPUT TO FILTER

E_f = 6.3 VOLTS SUPPLY FREQUENCY = 60 CPS

SOLID-LINE CURVES = CHOKES OF INFINITE INDUCTANCE

LONG-DASH LINES = BOUNDARY LINES FOR CHOKE SIZES AS SHOWN

SMALL-DASH CURVES = REGULATION CURVES FOR REPRESENTATIVE CHOKE SIZES

CURRENT-AND-VOLTAGE BOUNDARY LINE 'CEK' IS THE SAME AS SHOWN ON RATING CHART