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5X4GA

(ADVANCE DATA)

MECHANICAL DATA

Bulb	T-12, Glass
Base	B8-118, Short Medium Shell Octal 8-Pin
Basing	5Q
Cathode	Coated Filament
Mounting Position [1]	Vertical

ELECTRICAL DATA

FILAMENT CHARACTERISTICS

Filament Voltage, A C or D C	5.0 Volts
Filament Current	3.0 Amperes

RATINGS (Design Center Values) [2]

Rectifier Service [3]

Peak Inverse Plate Voltage	1550 Volts	Max.
A C Plate Supply Voltage Per Plate, RMS (See Rating Chart I)	550 Volts	Max.
D C Output Current	See Rating Chart I	
Steady State Peak Plate Current Per Plate (See Rating Chart II)	900 Ma	Max.
Transient Peak Plate Current Per Plate (See Rating Chart III)	4.3 Amperes	Max.

AVERAGE CHARACTERISTICS

Tube Voltage Drop		
Tube Conducting:	225 Ma	44 Volts
	250 Ma	47 Volts
	275 Ma	50 Volts

TYPICAL OPERATION

Full Wave Rectifier - Capacitor Input Filter

A C Plate Supply Voltage Per Plate, RMS	300	450 Volts
Filter Input Capacitor	40	40 uf
Total Plate-Supply Resistance Per Plate	25	75 Ohms
D C Output Current	275	250 Ma
D C Output Voltage at Filter Input	290	460 Volts

Full Wave Rectifier - Choke Input Filter

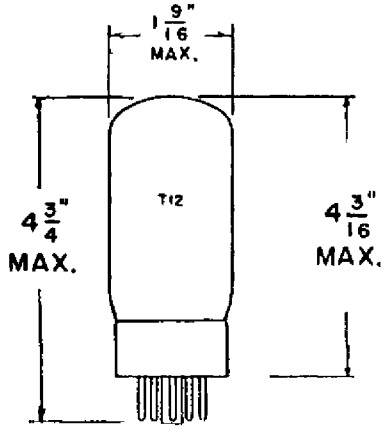
A C Plate Supply Voltage Per Plate, RMS	550 Volts
Filter Input Choke	10 Henrys
D C Output Current	250 Ma
D C Output Voltage at Filter Input	440 Volts

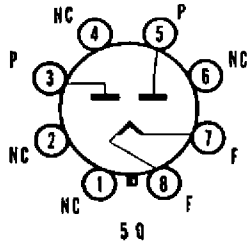
NOTES:

1. Horizontal Operation is permitted if Pins 1 and 4 are in a vertical plane.
2. See "Interpretation of Rating Charts".
3. For use with sinusoidal supply voltages within the frequency range of 25 to 1000 cps.

QUICK REFERENCE DATA

The Sylvania Type 5X4GA is a filamentary, full-wave, high vacuum rectifier designed for service in the power supply of television receivers or other equipment requiring high current. The 5X4GA employs a T-12 envelope and features a higher output current than the 5X4G. Except for basing it is identical to the Type 5U4GB.





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RADIO TUBE DIVISION
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INTERPRETATION OF RATING CHARTS

Rating Charts I, II and III represent boundary conditions beyond which operation of the Sylvania Type 5X4GA is not permitted. With the aid of simple laboratory measurements and the use of the three Charts, any application may be analyzed for proper rectifier type operation.

The boundaries of Rating Chart I are based on constant plate dissipation. These boundaries differ, depending upon the type of filter used. With capacitor input, operation is confined to the area bounded by FAEDG while for choke input, the entire area bounded by FABCDG may be used.

The boundary of Rating Chart II represents a line of constant steady-state peak current. Operation within the boundary is permitted.

Rating Chart III defines the minimum value of effective plate supply resistance, per plate, for any given plate voltage supply which will assure that the surge currents are within a safe value.

For any application, each Chart should be consulted. On all Charts the points of operation should fall within the proper boundaries.

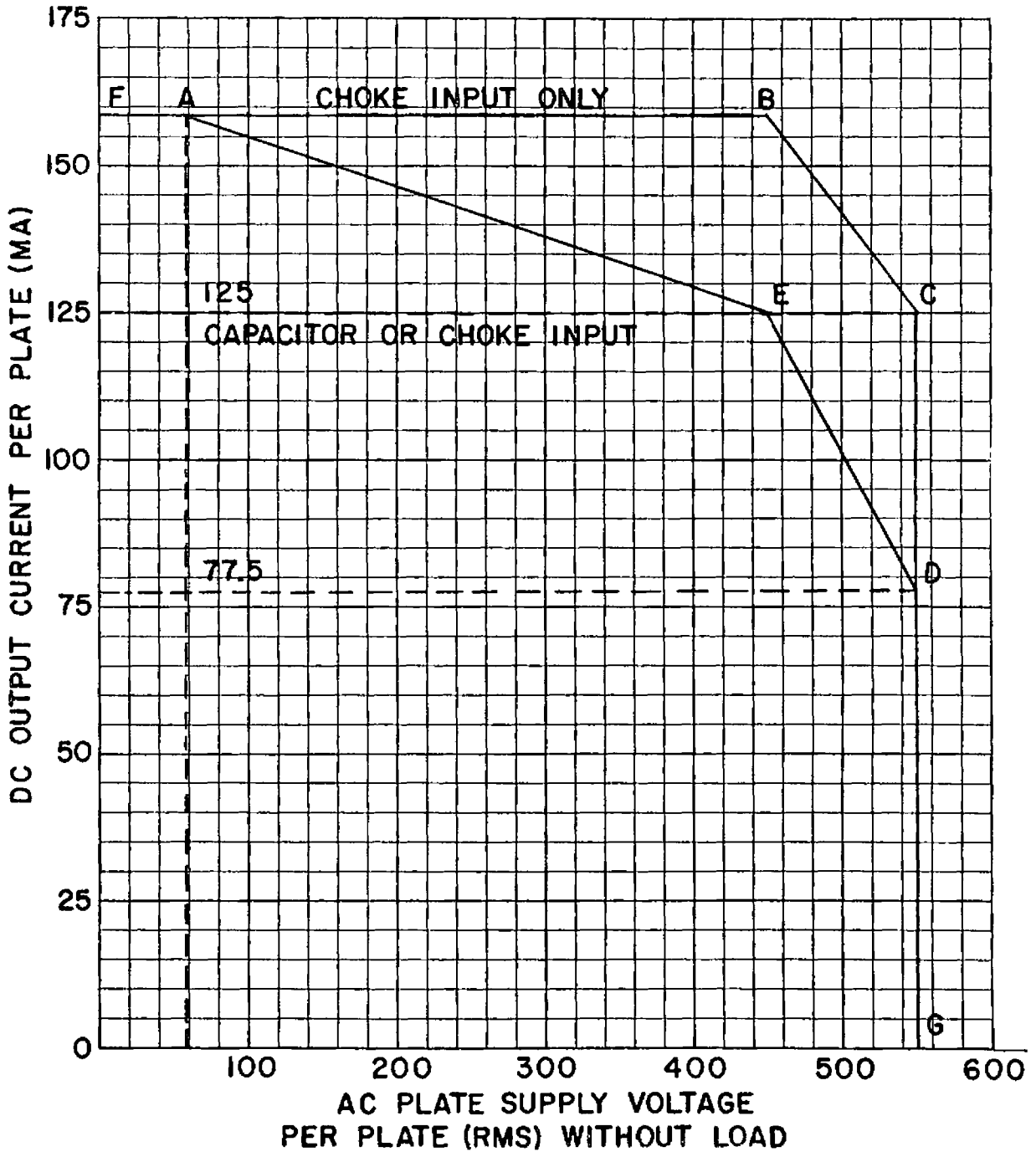
Plate supply voltages are measured with the rectifier tube non-conducting, i.e., with the transformer unloaded. This unloaded voltage is used when calculating rectification efficiency.

The rectification efficiency is defined as

$$\frac{\text{D C Output Voltage}}{\sqrt{2}\ (\text{RMS Supply Voltage Per Plate})}$$

The D C output voltage is measured at the input to the filter.

RATING CHART I



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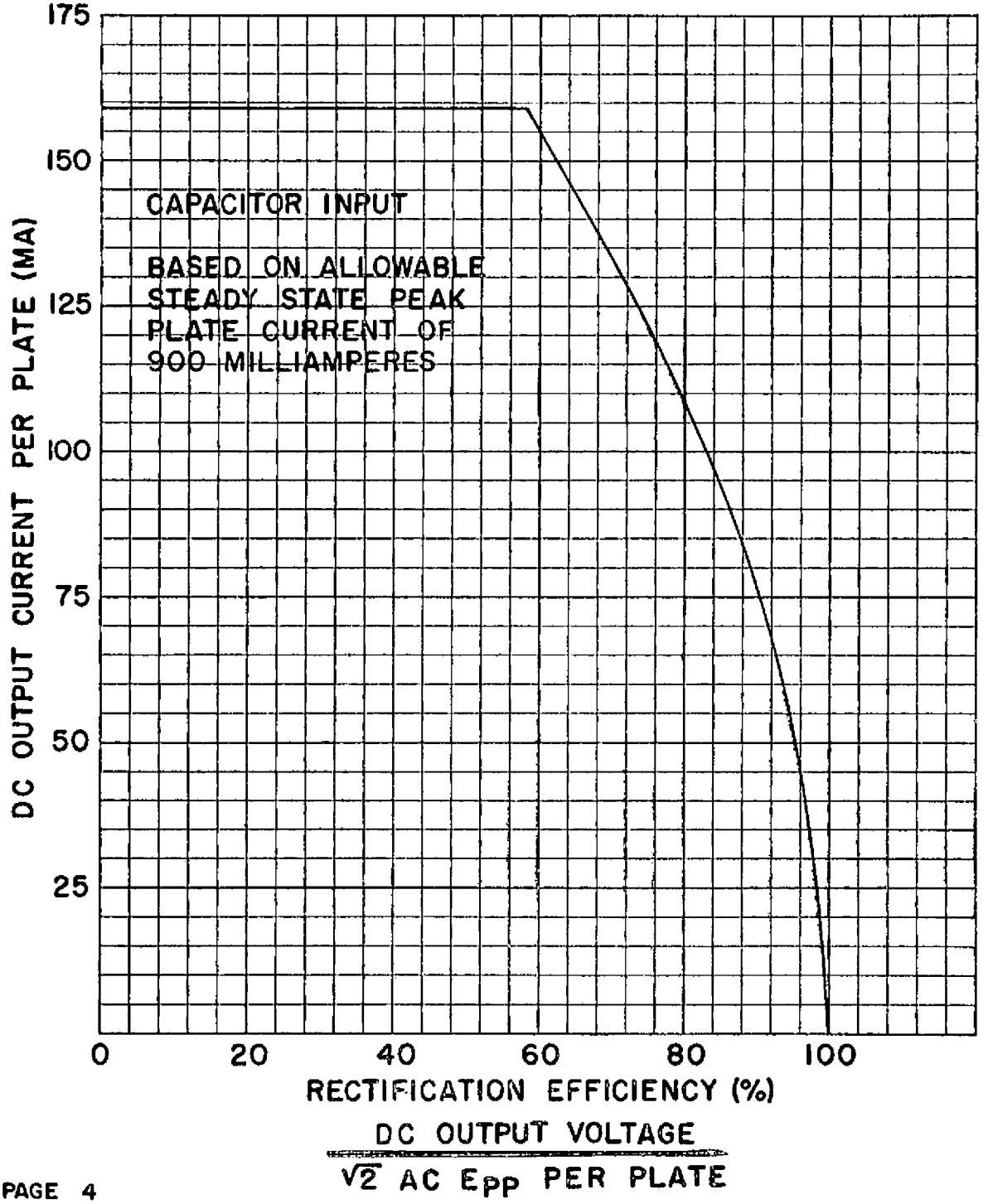
5X4GA

RATING CHART II



RATING CHART III