

Full-Wave Vacuum Rectifier

For Industrial & Military Applications

GENERAL DATA

Electrical:

Filament, Coated:^a

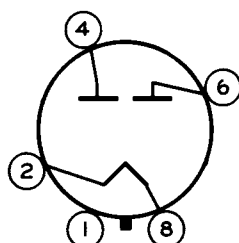
Voltage (AC or DC). 5 volts
Current 2 amp

Mechanical:

Operating Position. Vertical, base down or up, or
Horizontal with pins 2 and 4 in vertical plane
Maximum Overall Length. 4-1/4"
Maximum Seated Length 3-11/16"
Diameter. 1.438" to 1.562"
Bulb. T12
Base. Short Medium-Shell Octal 5-Pin Micanol
with External Barriers, Style B, Arrangement 1
(JEDEC Group 1, No.85-121)

Basing Designation for BOTTOM VIEW. 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, Absolute-Maximum Values:

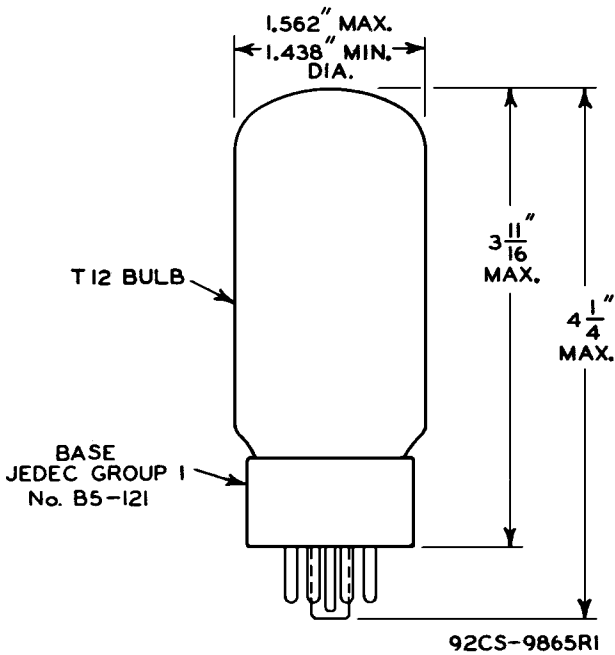
For altitudes up to	40000	20000	feet
PEAK INVERSE PLATE VOLTAGE. . .	2650 max.	3100 max.	volts
AC PLATE SUPPLY VOLTAGE PER PLATE (RMS, without load) . . .	See Rating Chart I		
PEAK PLATE CURRENT PER PLATE. . .	715 max.	715 max.	ma
DC OUTPUT CURRENT PER PLATE . . .	See Rating Chart I		
HOT-SWITCHING TRANSIENT PLATE CURRENT PER PLATE	b	b	
BULB TEMPERATURE (At hottest point on bulb surface).	230 max.	230 max.	°C

Typical Operation:

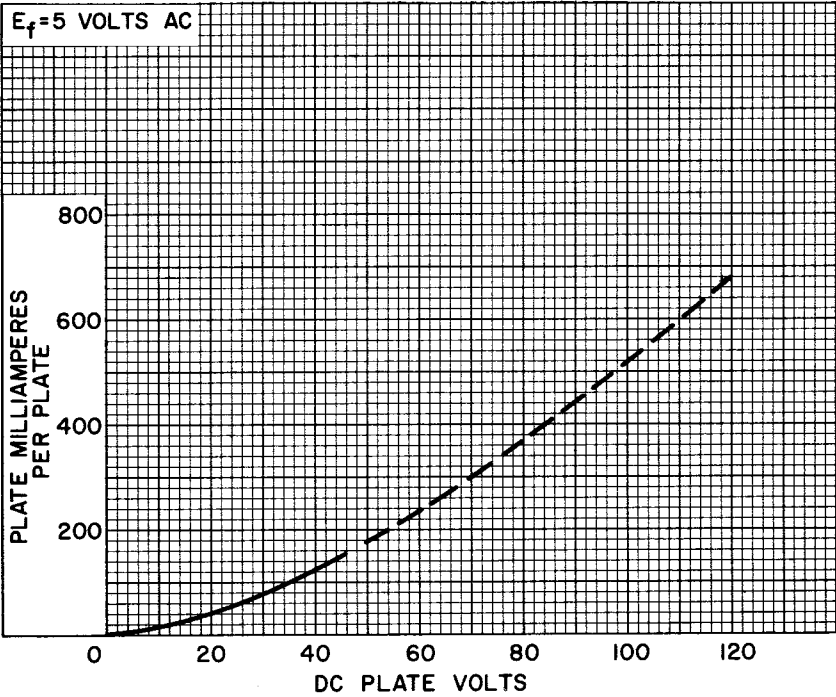
With capacitor-input filter

For altitudes up to	40000	20000	feet
AC-Plate-to-Plate Supply Voltage (RMS, without load) .	1400	1500	2000
Filter-Input Capacitor.	20	20	20
Total Effective Plate Supply Impedance Per Plate ^c	225	250	375
			ohms





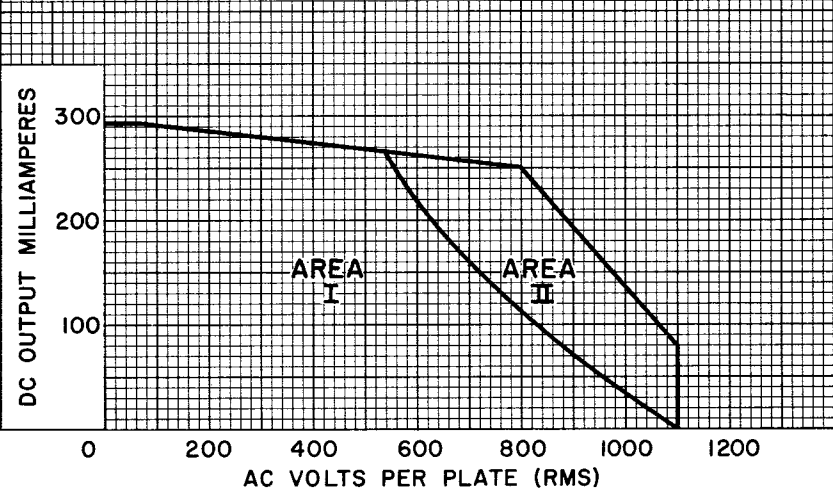
AVERAGE PLATE CHARACTERISTIC



92CS-11183

OPERATING AREAS FOR SIMULTANEOUS AND DELAYED APPLICATION OF PLATE VOLTAGE

FULL-WAVE RECTIFIER SERVICE WITH CAPACITOR-INPUT FILTER.
AREA I—FILAMENT AND PLATE VOLTAGE MAY BE APPLIED SIMULTANEOUSLY.
AREA II—FILAMENT SHOULD BE ALLOWED TO REACH OPERATING TEMPERATURE BEFORE PLATE VOLTAGE IS APPLIED. FOR AVERAGE CONDITIONS, THE DELAY IS APPROXIMATELY 10 SECONDS.



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RATING CHART I

$E_f = 5$ VOLTS AC

MAXIMUM OPERATING VALUES WITH:

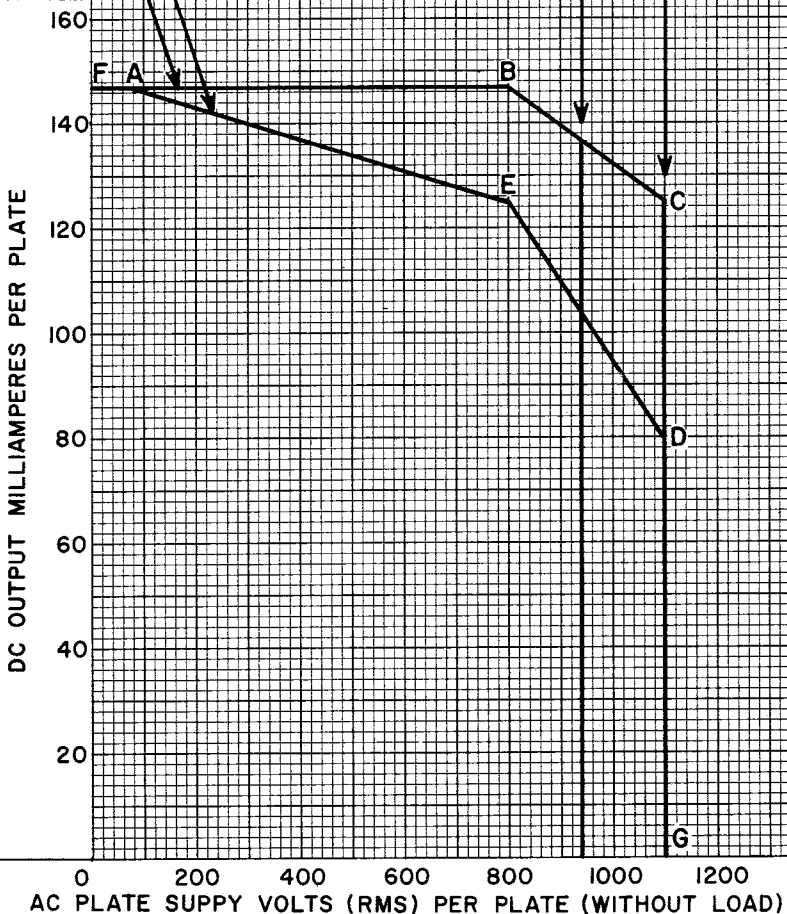
CHOKE-INPUT FILTER

CAPACITOR-INPUT FILTER

MAXIMUM VOLTAGE-RATING:

UP TO 20000 FEET

AT 40000 FEET

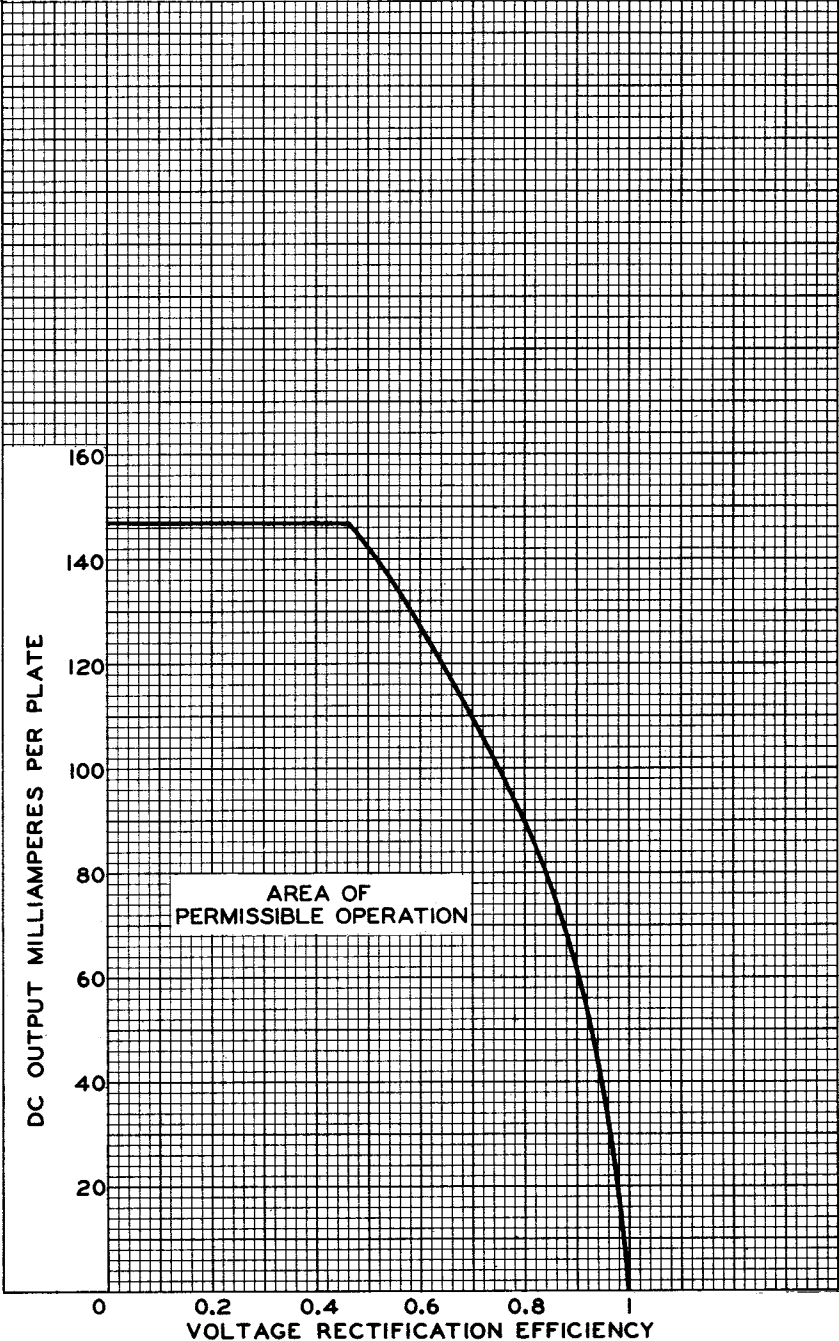


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RATING CHART II
With Capacitor-Input Filter

$E_f = 5$ VOLTS AC
MAXIMUM PEAK PLATE CURRENT PER PLATE = 715 MA.
VOLTAGE RECTIFICATION EFFICIENCY = $\frac{\bar{E}}{1.41 E_S}$
WHERE $\bar{E}$ = DC OUTPUT VOLTS AT INPUT TO FILTER
 E_S = AC PLATE SUPPLY VOLTS (RMS) PER PLATE



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RATING CHART III With Capacitor-Input Filter

$E_f = 5$ VOLTS AC

MAXIMUM HOT-SWITCHING AMPERES = 3

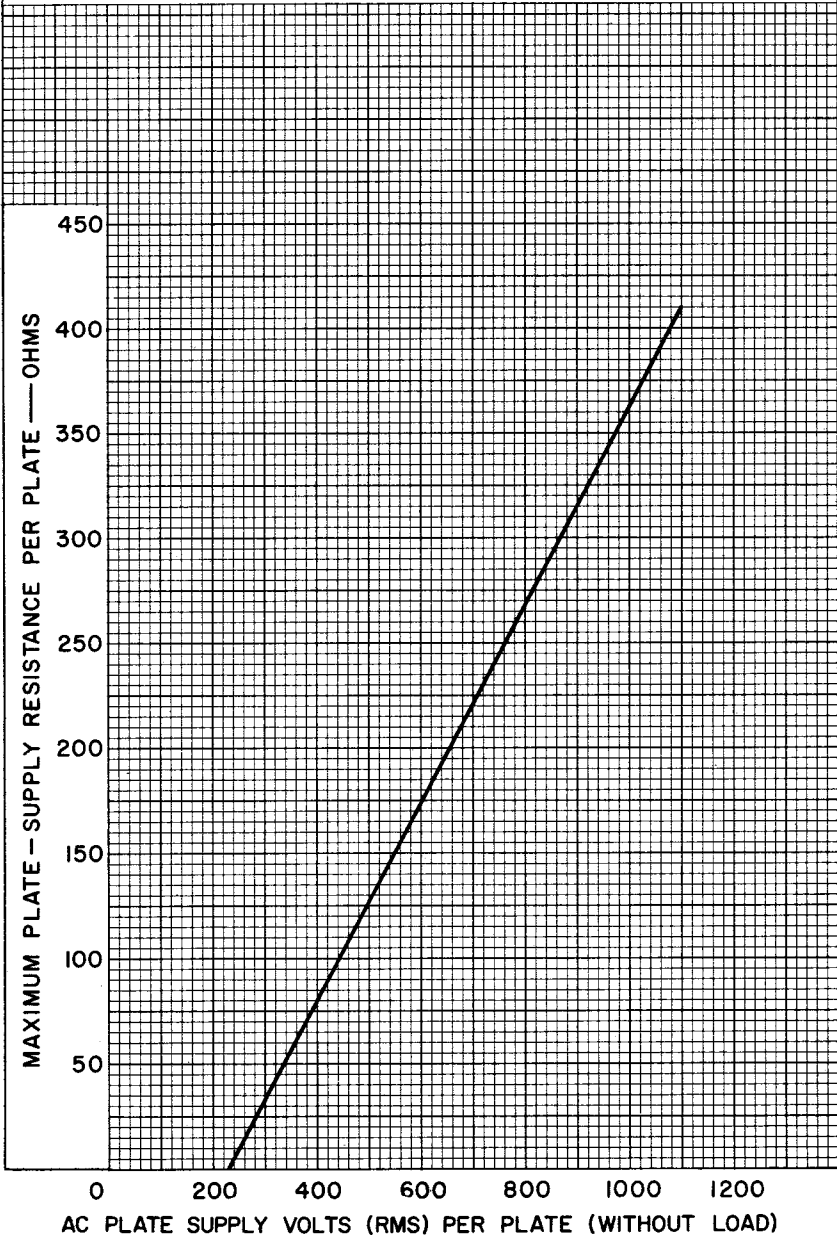
PLATE-SUPPLY RESISTANCE PER PLATE = $R_{SEC.} + N^2 R_{PRI.} + R_A$

WHERE $R_{SEC.}$ = DC RESISTANCE OF TRANSFORMER
SECONDARY PER SECTION

$R_{PRI.}$ = DC RESISTANCE OF TRANSFORMER PRIMARY

R_A = DC RESISTANCE OF ADDED SERIES RESIS-
TANCE PER PLATE

N = TRANSFORMER-VOLTAGE STEP-UP RATIO
PER SECTION



92CM-6416R4

