

N E C

P 250 A

Natural Air Cooled Pentode

Power Amplifier, Oscillator, Modulator, or Grid No.3
Modulator, frequency up to 25 MHz.

Electrical Data:

General Data:

Filament: Thoriated Tungsten

In Case of Single Phase Heating:

Voltage	12	Volts
Current (at nominal voltage)	8.5	amps

In Case of Two Phase Heatings:

Voltage	6	Volts
Current (at nominal voltage)	17	amps

Transconductance	8	Milliamps
(for $E_b=2000Vdc$, $E_{c3}=0Vdc$, $E_{c2}=500Vdc$, $I_b=210mA$)		

Amplification Factor, Grid No.1 to Grid No.2	6.5	
(for $E_b=2000Vdc$, $E_{c3}=0Vdc$, $E_{c2}=500Vdc$, $I_b=210mA$)		

Direct Interelectrode Capacitances

Grid No.1 to Plate	0.16	μF
Input	3.1	μF
Output	2.1	μF

Frequency for max. Ratings	25	MHz
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Mechanical Data:

Dimensions:

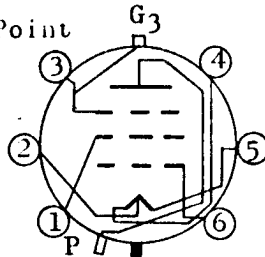
Maximum overall length	238	mm
Maximum diameter	123	mm
Net Weight (approx.)	990	g

Base:

Upper JIS A20S
 Bottom JIS F65S
 Socket NEC M-103
 Cap NEC VT-309

Terminal Connections:

- | | |
|--------------------------|--|
| 1: Grid No.2 | 5: Filament |
| 2: Filament Common Point | 6: Grid No.1 |
| | G ₃ : Grid No.3(upper base) |
| | P: Plate (upper base) |
| 3: Grid No.3 | |
| 4: Filament | |



Mounting Position: Vertical, Bottom Base Up or Down.

Cooling: Convection and Radiation

Maximum Bulb Temperature 200°C
 Maximum Upper Base Temperature 180°C
 Maximum Bottom Base Temperature 170°C

AF Power Amplifier and Modulator—Class B

Maximum Ratings:

DC Plate Voltage 3000 Volts
 DC Grid No.3 Voltage 100 Volts
 DC Grid No.2 Voltage 600 Volts
 Max.—Signal DC Plate Current (note 1) 500 mA
 Max.—Signal Plate Input (note 1) 1000 Watts
 Plate Dissipation (note 1) 420 Watts
 Grid No.2 Dissipation (note 1) 70 Watts

note 1. Averaged over any audio-frequency cycle of sine-wave form

Typical Operation: (Value are for two tubes)

DC Plate Voltage 2000 2500 Volts
 DC Grid No.3 Voltage 0 0 Volts
 DC Grid No.2 Voltage 500 500 Volts

DC Grid No.1 Voltage	-70	-70 Volts
Peak AF Grid No.1-to-Grid No.1 Voltage	210	200 Volts
Zero-Signal DC Plate Current	160	180 mA
Max.-Signal DC Plate Current	800	800 mA
Zero-Signal DC Grid No.2 Current	4	4 mA
Max.-Signal DC Grid No.2 Current (approx.)	25	21 mA
Max.-Signal DC Grid No.1 Current (approx.)	21	17 mA
Effective Load Resistance (Plate-to-Plate)	5080	6400 Ohms
Max.-Signal Driving Power (approx.)	2.1	1.6 Watts
Max.-Signal Power Output (approx.)	1000	1200 Watts

Grid No.3 Modulated RF Power Amplifier - Class C Telephony
(Carrier conditions per tube for use with a max.
modulation factor of 1.0)

Maximum Ratings:

DC Plate Voltage	3000 Volts
DC Grid No.2 Voltage	600 Volts
DC Grid No.1 Voltage	-400 Volts
DC Plate Current	250 mA
DC Grid No.1 Current	40 mA
Plate Dissipation	420 Watts
Grid No.2 Dissipation	70 Watts

Typical Operation:

Please refer to the "grid No.3 modulated characteristics."

RF Power Amplifier and Oscillator—Class C Telephony

(Key-down condition per tube without amplitude modulation)

Maximum Ratings:

DC Plate Voltage	3000 Volts
DC Grid No.3 Voltage	100 Volts
DC Grid No.2 Voltage	600 Volts
DC Grid No.1 Voltage	-400 Volts
DC Plate Current	500 mA
DC Grid No.1 Current	40 mA
Plate Input	1500 Watts
Plate Dissipation	420 Watts
Grid No.2 Dissipation	70 Watts

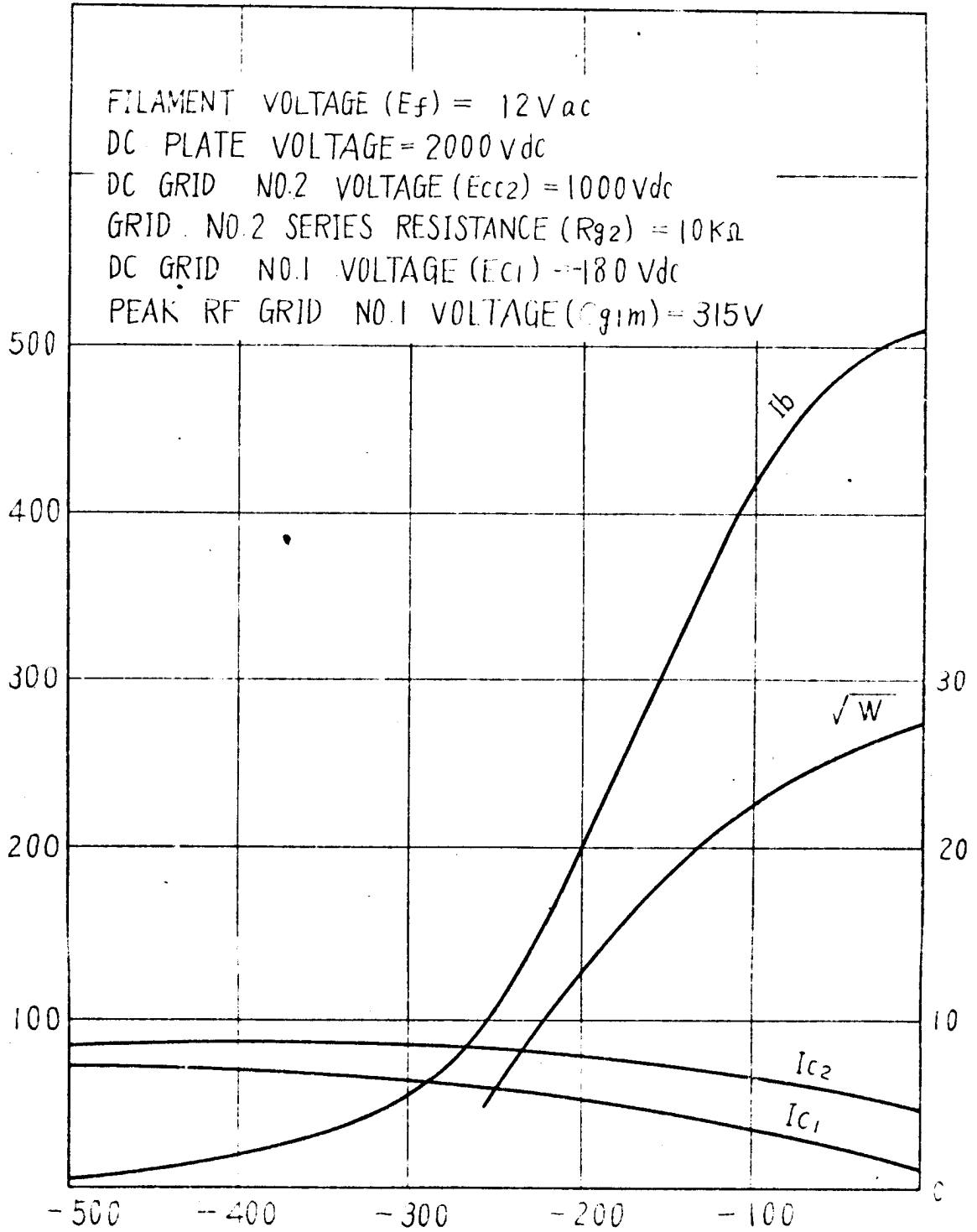
Typical Operation:

DC Plate Voltage	2000	3000	Volts
DC Grid No.3 Voltage	0	0	Volts
DC Grid No.2 Voltage	500	500	Volts
DC Grid No.1 Voltage	-200	-200	Volts
Peak RF Grid No.1 Voltage	300	300	Volts
DC Plate Current	500	480	mA
DC Grid No.2 Current	15	10	mA
DC Grid No.1 Current (approx.)	20	20	mA
Driving Power (approx.)	6	6.5	Watts
Power Output (approx.)	710	1050	Watts
Load Power Output (approx.) (note 2)	630	950	Watts

note 2. The value is reduced by driving power for oscillator.

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PLATE CURRENT (I_b), GRID NO.2 CURRENT (I_{c2}), GRID NO.1 CURRENT (I_{c1}) IN mA

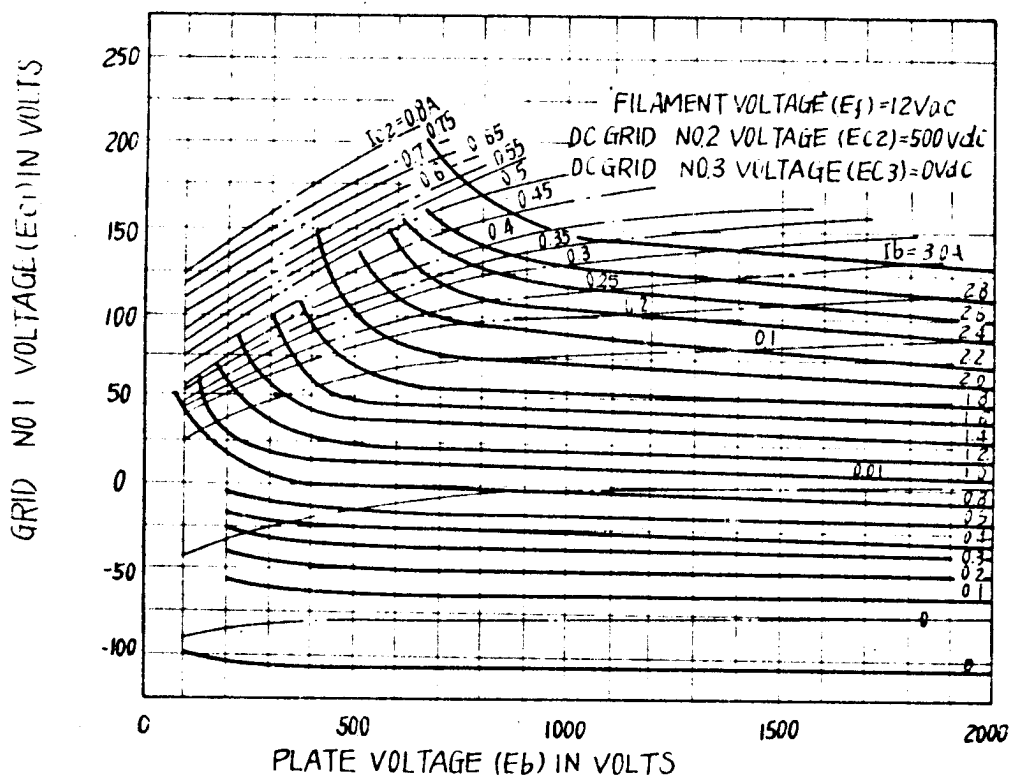


LOAD OUTPUT POWER (\sqrt{W})

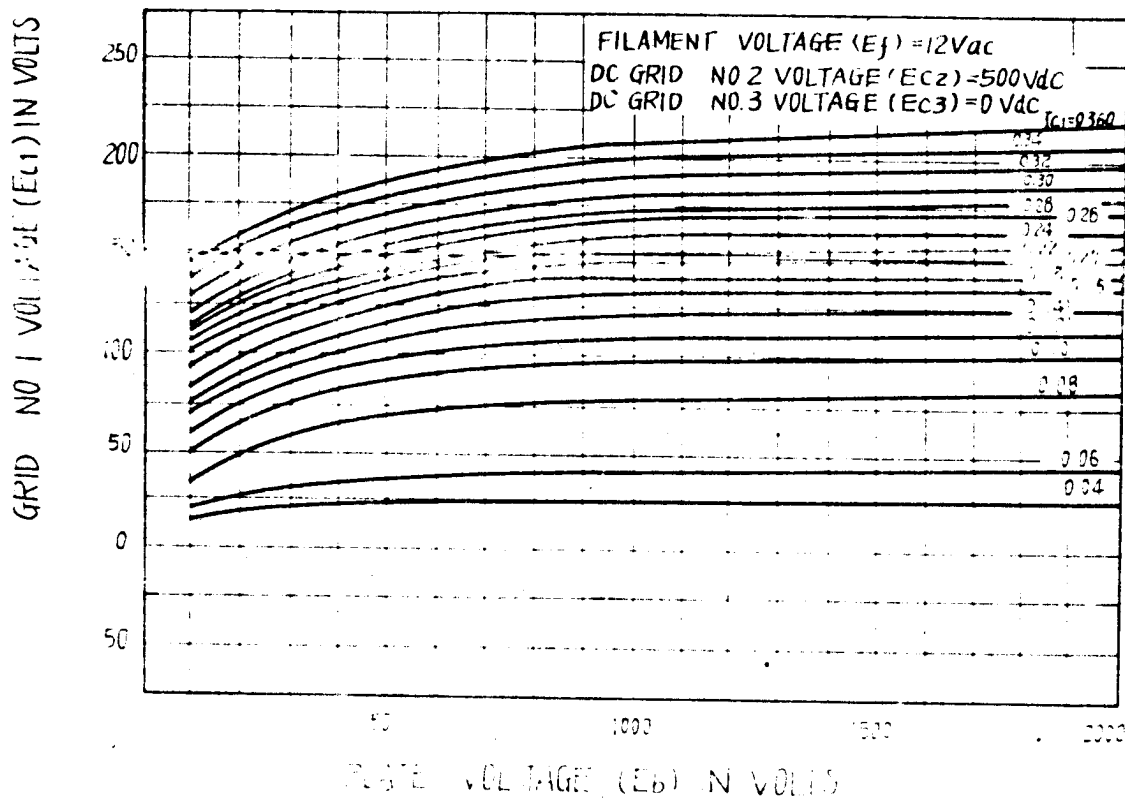
GRID NO.3 VOLTAGE (E_{c3}) IN VOLTS

P250A GRID NO.3 MODULATED CHARACTERISTICS

P 250A



P250A CONSTANT CURRENT CHARACTERISTICS



P250A CONSTANT CURRENT CHARACTERISTICS

P250A

Unit mm

