EIMAC
A Division of Varian Associates
SAN CARLOS, CALIFORNIA

25T

MEDIUM-MU TRIODE

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MODULATOR
OSCILLATOR
AMPLIFIER

The Eimac 25T is a medium-mu, power triode having a maximum plate dissipation of 25 watts and is intended for use as an amplifier, oscillator or modulator. It can be used at its maximum ratings at frequencies as high as 60 Mc.

Cooling of the 25T is accomplished by radiation from the plate, which operates at a visible red color at maximum dissipation and by means of air convection around the envelope.

GENERAL CHARACTERISTICS

ELECTRICAL

Filament: Thoriated tungsten	
Voltage	6.3 volts
Current	3.0 amperes
Amplification Factor (Average)	24
Direct Interelectrode Capacitances (Average)	
Grid-Plate	1.5 $\mu\mu f$
Grid-Filament	2.2 $\mu\mu f$
Plate-Filament	0.2 $\mu\mu f$
Transconductance (i_b=25 ma., E_b=1000 v.)	2500 μmhos
Frequency for Maximum Ratings	60 Mc.

MECHANICAL

Base	Small 4-pin, RMA type A4-5
Basing (See outline drawing)	RMA type 3G
Mounting	Vertical, base down or up
Cooling	Convection and Radiation
Recommended Heat Dissipating Connector:	
Plate	HR-1
Maximum Overall Dimensions:	
Length	4.38 inches
Diameter	1.44 inches
Net Weight	1.5 ounces
Shipping Weight (Average)	1.0 pound

AUDIO FREQUENCY POWER AMPLIFIER AND MODULATOR

Class-B

MAXIMUM RATINGS, PER TUBE

D-C PLATE VOLTAGE	2000 MAX. VOLTS
MAX-SIGNAL D-C PLATE CURRENT	75 MAX. MA.
PLATE DISSIPATION	25 MAX. WATTS
GRID DISSIPATION	7 MAX. WATTS

TYPICAL OPERATION, CLASS AB_2
Sinusoidal wave, two tubes unless otherwise specified

D-C Plate Voltage	750	1000	1250	Volts
D-C Grid Voltage (approx.)*	—20	—30	—42	Volts
Zero-Signal D-C Plate Current	43	32	24	Ma.
Max-Signal D-C Plate Current	127	127	130	Ma.
Effective Load, Plate-to-Plate	12,000	17,000	21,400	Ohms
Peak A-F Grid Input Voltage (per tube)	110	120	135	Volts
Max-Signal Peak Driving Power	5.5	6.0	6.8	Watts
Max-Signal Nominal Driving Power (approx.)	2.8	3.0	3.4	Watts
Max-Signal Plate Power Output	60	85	112	Watts

*Adjust to give stated zero-signal plate current.

PLATE MODULATED RADIO FREQUENCY AMPLIFIER

Class-C Telephony (Carrier conditions, per tube)

MAXIMUM RATINGS

D-C PLATE VOLTAGE	1600 MAX. VOLTS
D-C PLATE CURRENT	60 MAX. MA.
PLATE DISSIPATION	17 MAX. WATTS
GRID DISSIPATION	7 MAX. WATTS

TYPICAL OPERATION

D-C Plate Voltage	1000	1250	1600	Volts
D-C Plate Current	60	60	53	Ma.
D-C Grid Voltage	—120	—140	—170	Volts
D-C Grid Current	14	13	11	Ma.
Peak R-F Grid Input Voltage	235	255	280	Volts
Driving Power	3.3	3.3	3.1	Watts
Grid Dissipation	1.6	1.5	1.2	Watts
Plate Power Input	60	75	85	Watts
Plate Dissipation	13	15	17	Watts
Plate Power Output	47	60	68	Watts

The above figures show actual measured tube performance and do not allow for variations in circuit losses.

RADIO FREQUENCY POWER AMPLIFIER AND OSCILLATOR

Class-C Telegraphy or FM Telephony (Key-down conditions, per tube)

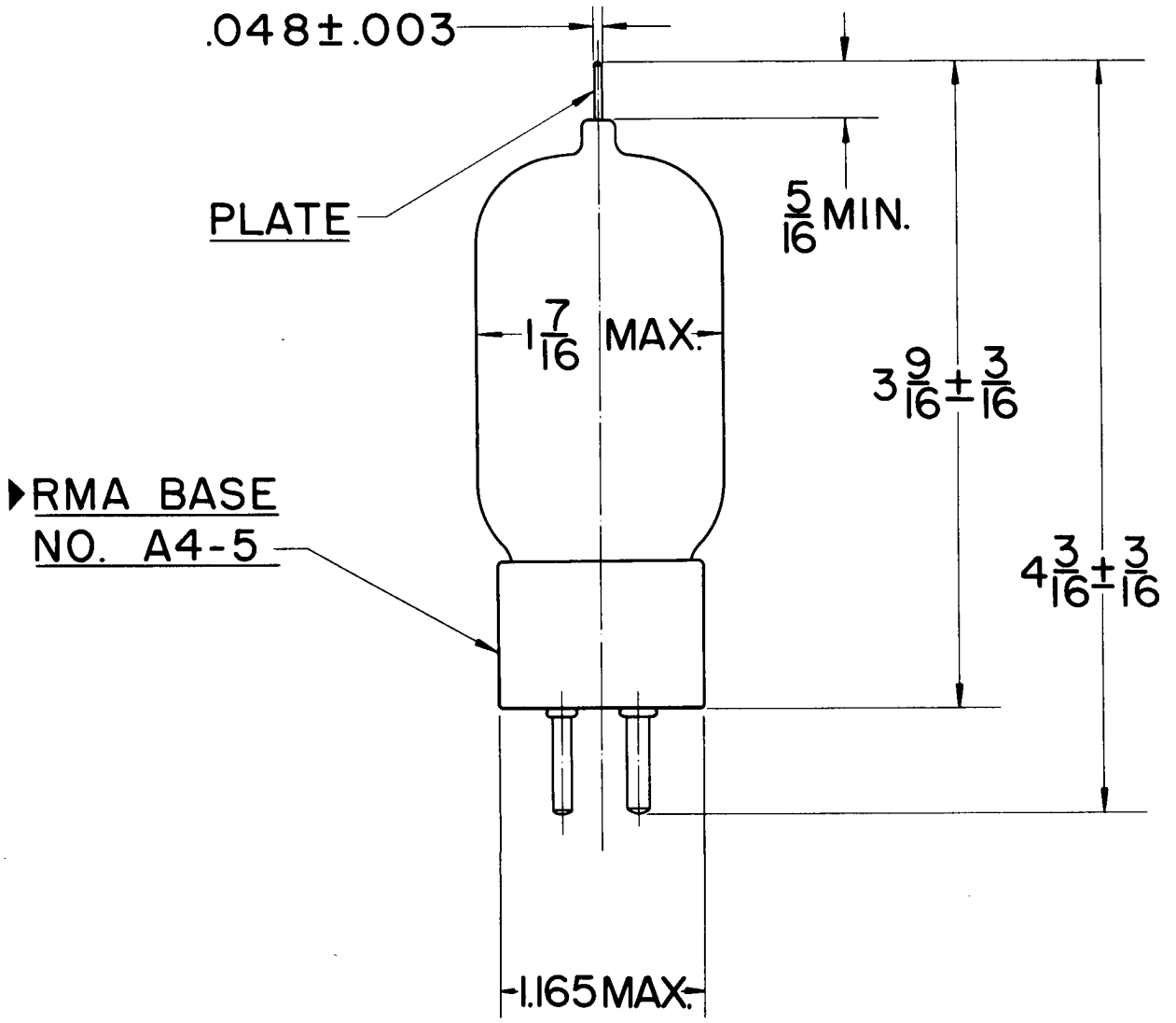
MAXIMUM RATINGS

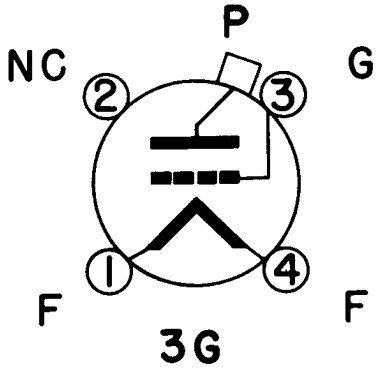
D-C PLATE VOLTAGE	2000 MAX. VOLTS
D-C PLATE CURRENT	75 MAX. MA.
PLATE DISSIPATION	25 MAX. WATTS
GRID DISSIPATION	7 MAX. WATTS

TYPICAL OPERATION

D-C Plate Voltage	1000	1500	2000	Volts
D-C Plate Current	72	67	63	Ma.
D-C Grid Voltage	—70	—95	—130	Volts
D-C Grid Current	9	13	18	Ma.
Peak R-F Grid Input Voltage	170	195	245	Volts
Driving Power	1.3	2.2	4.0	Watts
Grid Dissipation	.9	1.3	2.1	Watts
Plate Power Input	72	100	125	Watts
Plate Dissipation	25	25	25	Watts
Plate Power Output	47	75	100	Watts

The above figures show actual measured tube performance and do not allow for variations in circuit losses.


.048±.003
PLATE
5/16 MIN.
1 7/16 MAX.
3 9/16 ± 3/16
4 3/16 ± 3/16
▶RMA BASE
NO. A4-5
1.165 MAX.


P
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2
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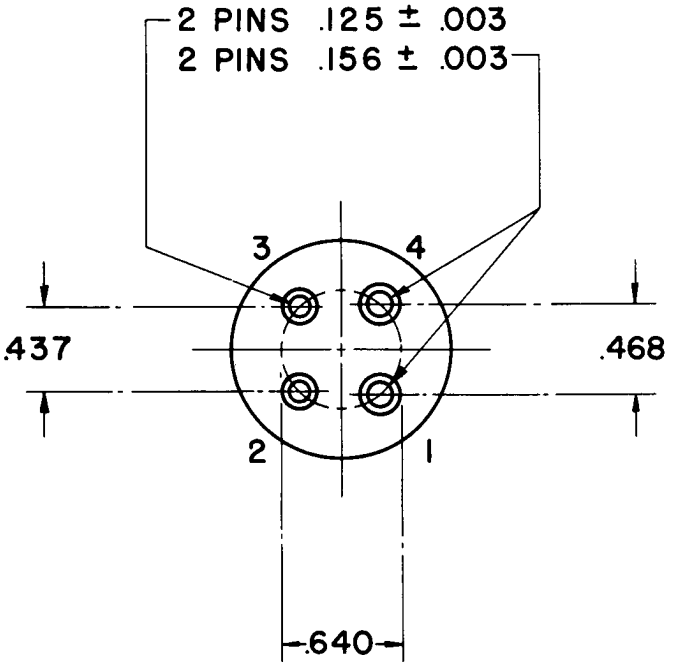
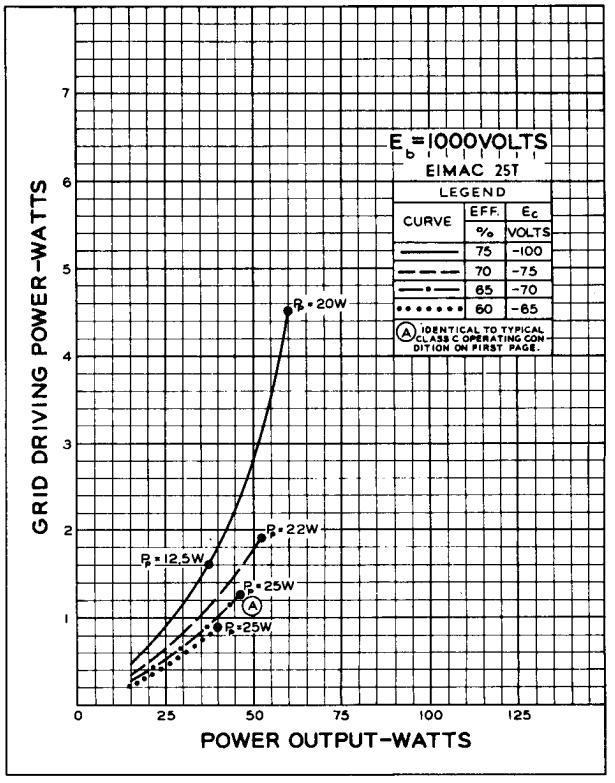
3G

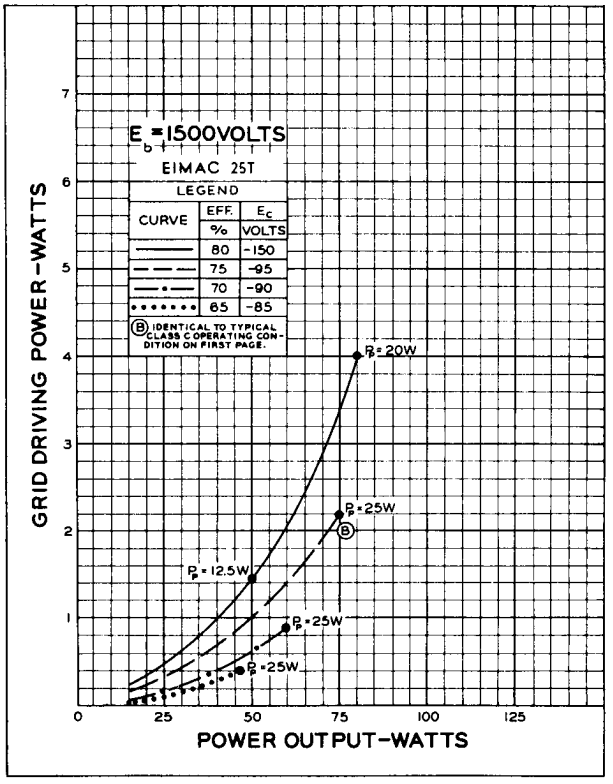

2 PINS .125 ± .003
2 PINS .156 ± .003
3
4
.437
.468
2
1
.640

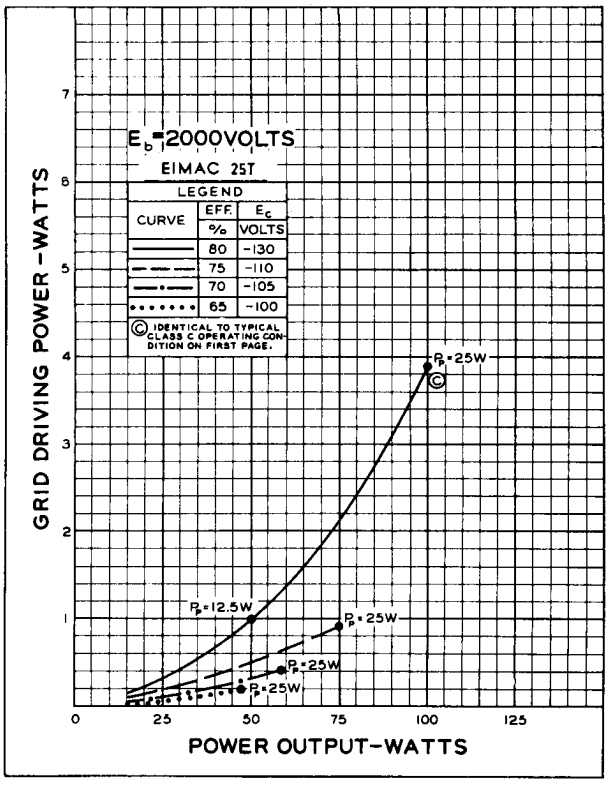
DRIVING POWER vs. POWER OUTPUT

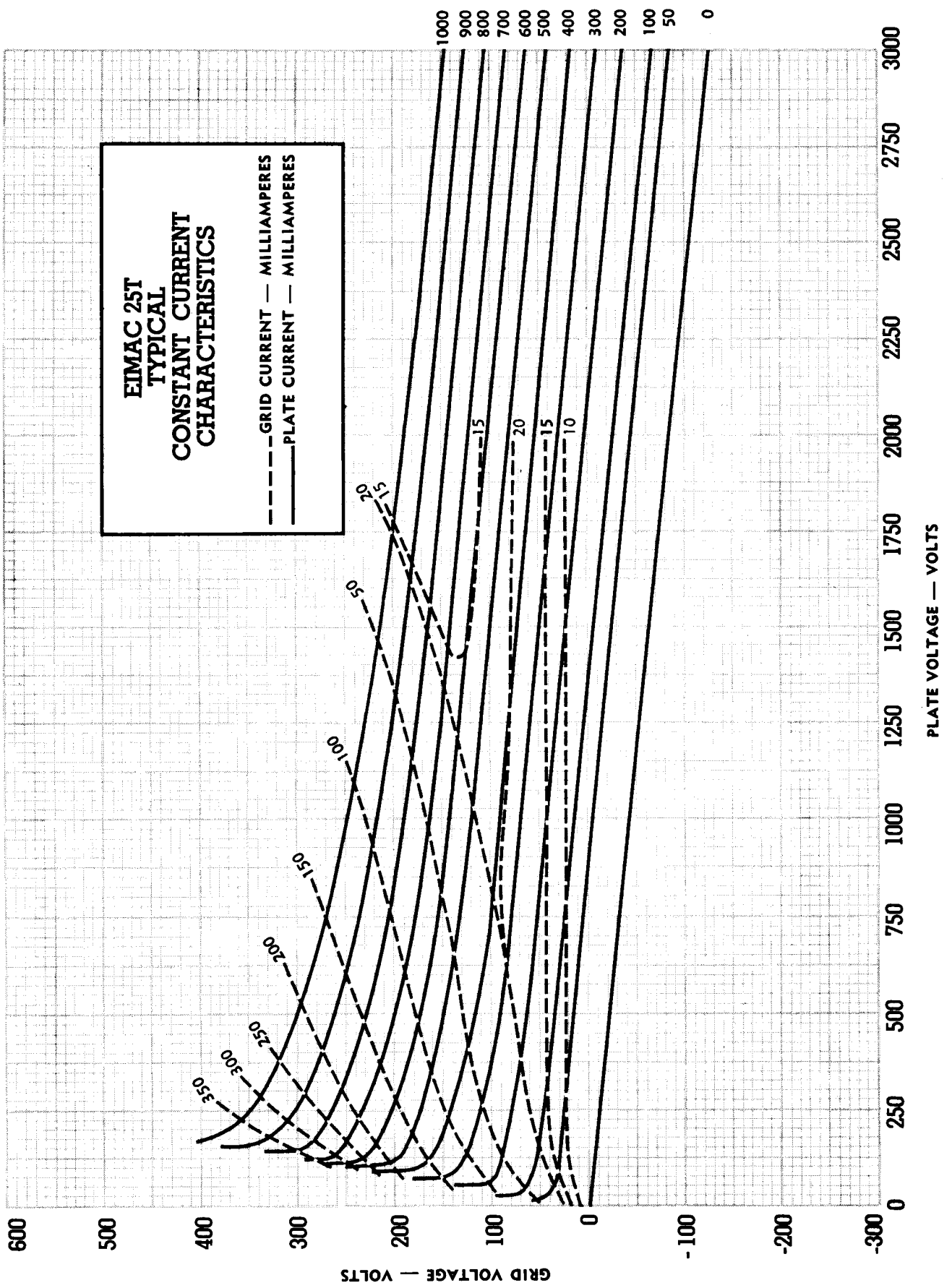
The three charts on this page show the relationship of plate efficiency, power output and grid driving power at plate voltages of 1000, 1500 and 2000 volts. These charts show combined grid and bias losses only. The driving power and power output figures do not include circuit losses. The plate dissipation in watts is indicated by P_p.

Points A, B, and C are identical to the typical Class C operating conditions shown on the first page under 1000, 1500, and 2000 volts respectively.









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