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MEDIUM-MU TRIODE — SHARP-CUTOFF PENTODE

9-PIN MINIATURE TYPE

*Intended for use in equipment having
series heater-string arrangement*

GENERAL DATA**Electrical:**

Heater, for Unipotential Cathodes:

Voltage	6.3	ac or dc volts
Current	0.6	amp
Warm-up time (Average)	11	sec

For definition of heater warm-up time and method of determining it, see sheet HEATER WARM-UP TIME MEASUREMENT at front of this Section.

Direct Interelectrode Capacitances (Approx.):^o**Triode Unit:**

Grid to plate	2.4	μmf
Grid to cathode and heater.	2.6	μmf
Plate to cathode and heater	0.38	μmf

Pentode Unit:

Grid No.1 to plate.	0.046	μmf
Grid No.1 to cathode & grid No.3 & internal shield, grid No.2, and heater.	7	μmf
Plate to cathode & grid No.3 & internal shield, grid No.2, and heater.	2.4	μmf
Triode grid to pentode plate.	0.016	μmf
Pentode grid No.1 to triode plate	0.004	μmf
Pentode plate to triode plate	0.095	μmf

Characteristics, Class A₁ Amplifier:

	Triode Unit	Pentode Unit	
Plate Voltage	150	200	volts
Grid-No.2 Voltage	—	125	volts
Grid-No.1 Voltage	—5	—	volts
Cathode Resistor.	—	82	ohms
Amplification Factor.	17	—	
Plate Resistance (Approx.).	5150	150000	ohms
Transconductance.	3300	7000	μmhos
Plate Current	9.5	15	ma
Grid-No.2 Current	—	3.4	ma
Grid-No.1 Voltage (Approx.) for plate current of 100 μamp	—14	—8	volts

Mechanical:

Mounting Position	Any
Maximum Overall Length.	2-5/8"
Maximum Seated Length	2-3/8"

^o Without external shield.

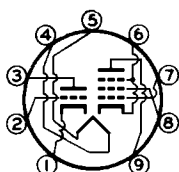


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Length, Base Seat to Bulb Top (Excluding tip). 2" $\pm$ 3/32"
 Maximum Diameter 7/8"
 Dimensional Outline. See General Section
 Bulb T-6-1/2
 Base Small-Button Noval 9-Pin (JETEC No.E9-1)
 Basing Designation for BOTTOM VIEW 9DX

Pin 1—Triode
Cathode
Pin 2—Triode
Grid
Pin 3—Triode
Plate
Pin 4—Heater
Pin 5—Heater



Pin 6—Pentode
Cathode,
Grid No.3,
Internal
Shield
Pin 7—Pentode
Grid No.1
Pin 8—Pentode
Grid No.2
Pin 9—Pentode
Plate

AMPLIFIER - Class A₁

Maximum Ratings, Design-Center Values:

	Triode Unit	Pentode Unit	
PLATE VOLTAGE.	300 max.	300 max.	volts
GRID-No.2 (SCREEN) SUPPLY VOLTAGE.	—	300 max.	volts
GRID-No.2 VOLTAGE.	—	See Grid-No.2 Input	

Rating Chart at front of Receiving Tube Section

GRID-No.1 (CONTROL-GRID) VOLTAGE:			
Positive bias value . . .	0 max.	0 max.	volts
PLATE DISSIPATION.	2.5 max.	3 max.	watts
GRID-No.2 INPUT:			
For grid-No.2 voltages up to 150 volts.	—	1 max.	watt
For grid-No.2 voltages between 150 and 300 volts.	—	See Grid-No.2 Input	

Rating Chart at front of Receiving Tube Section

PEAK HEATER-CATHODE VOLTAGE:			
Heater negative with respect to cathode . . .	200 max.	200 max.	volts
Heater positive with respect to cathode . . .	200 [▲] max.	200 [▲] max.	volts

[▲] The dc component must not exceed 100 volts



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Maximum Circuit Values:

	<i>Triode Unit</i>	<i>Pentode Unit</i>	
Grid-No.1-Circuit Resistance:			
For fixed-bias operation. .	0.5 max.	0.25 max.	megohm
For cathode-bias operation.	1.0 max.	1.0 max.	megohm

OPERATING CONSIDERATIONS

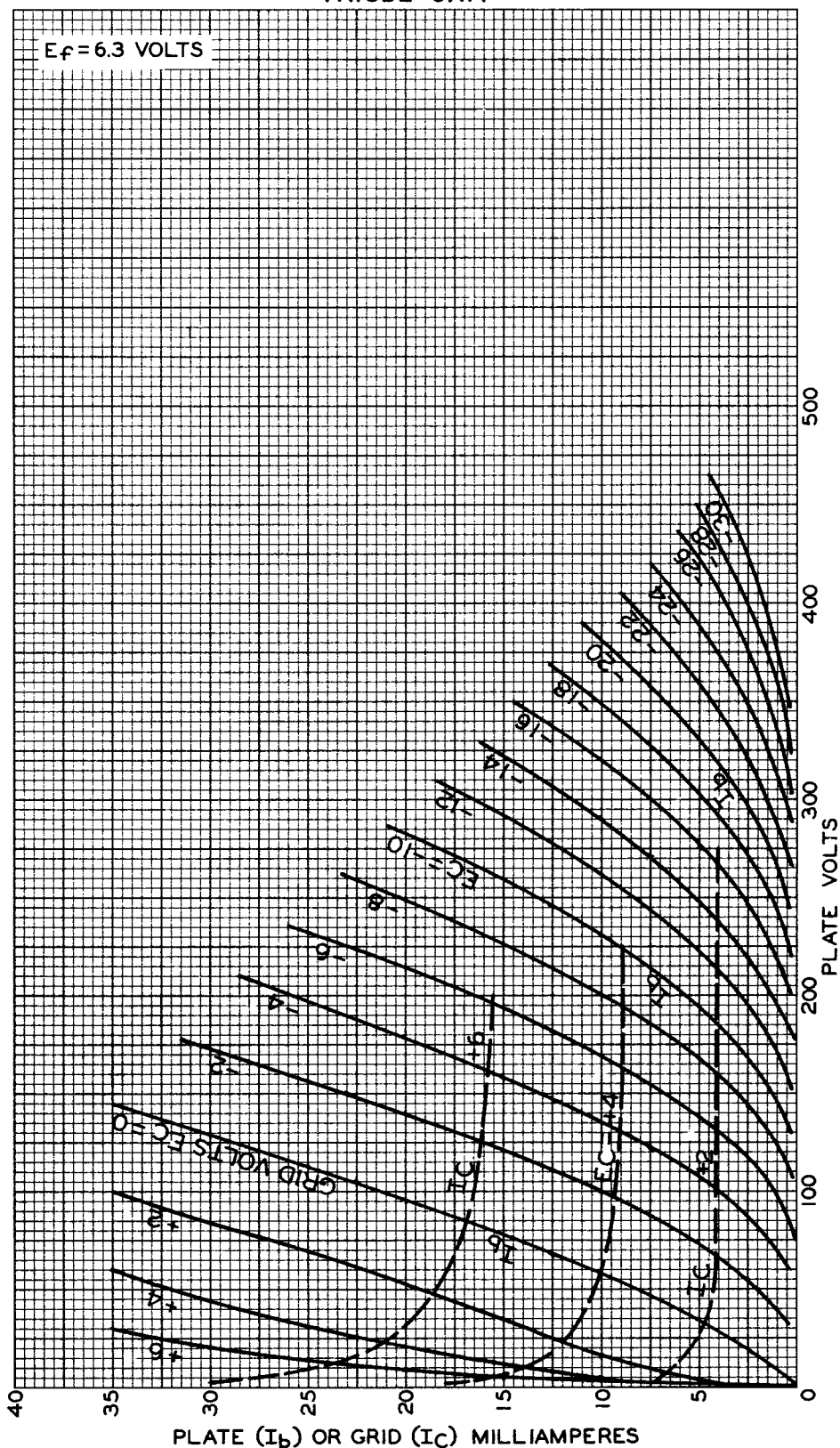
Because the *internal shield* is connected to the cathode and grid No.3, the impedance in the cathode circuit should be kept as low as possible to minimize cross-coupling effects.

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AVERAGE CHARACTERISTICS TRIODE UNIT



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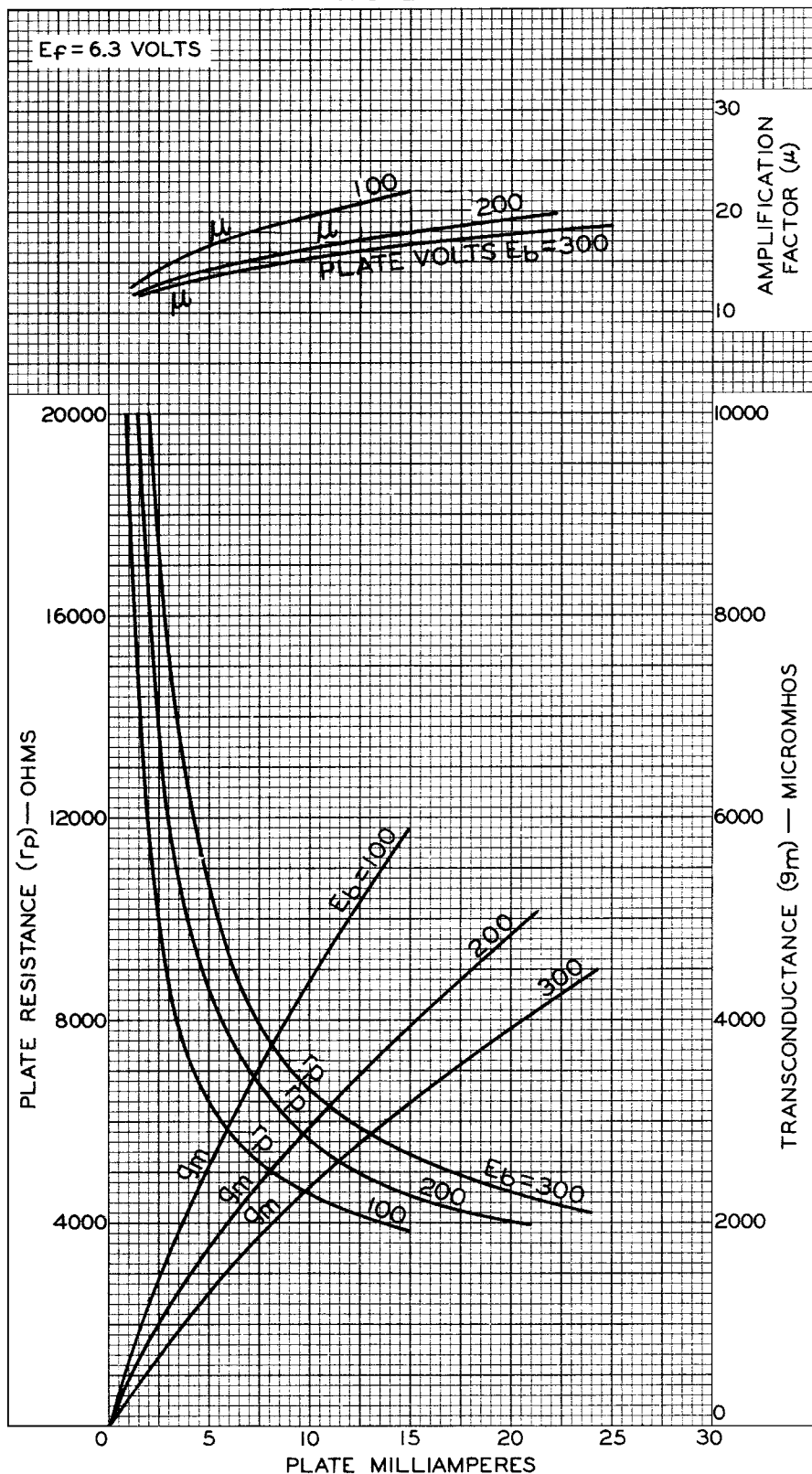
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AVERAGE CHARACTERISTICS TRIODE UNIT

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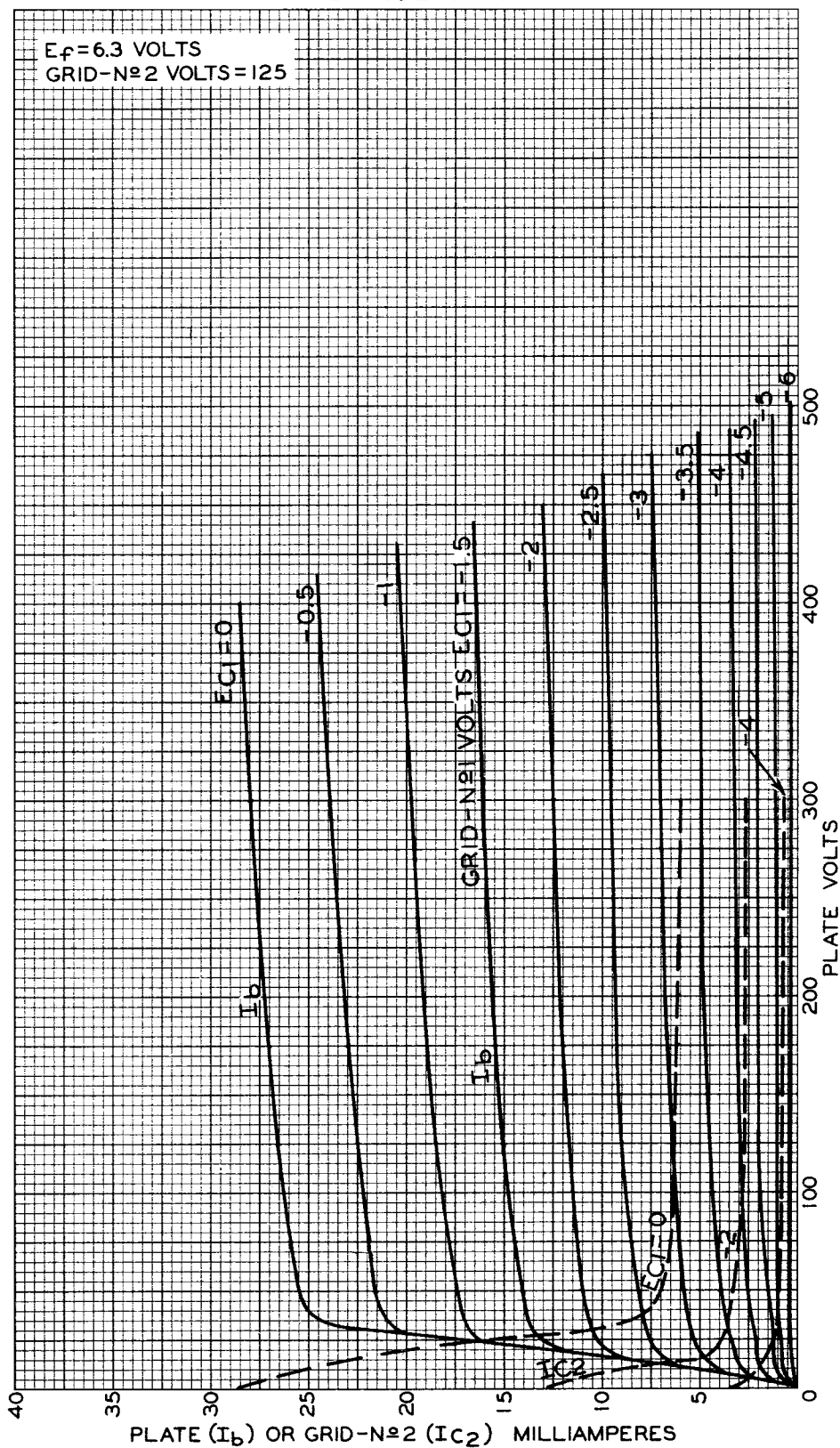
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AVERAGE CHARACTERISTICS PENTODE UNIT



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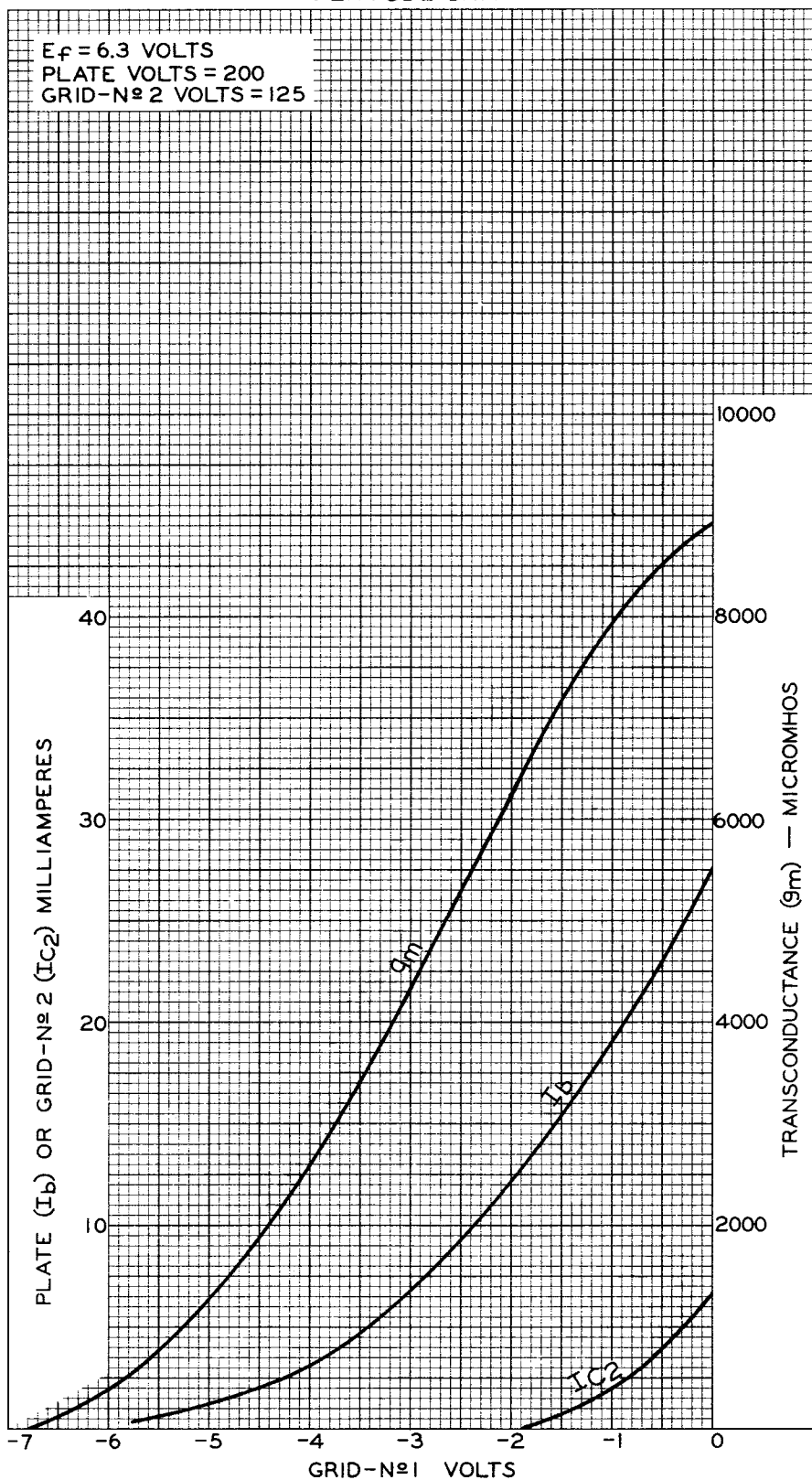


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$E_f = 6.3$ VOLTS
PLATE VOLTS = 200
GRID-№2 VOLTS = 125



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