

Medium-Mu Triode— Sharp-Cutoff Pentode

9-PIN MINIATURE TYPE

With Heater Having Controlled Warm-Up Time

GENERAL DATA

Electrical:

Heater, for Unipotential Cathodes:

Voltage (AC or DC)	6.3	volts
Current	0.45 ± 6%	amp
Warm-up time (Average)	11	sec

Direct Interelectrode Capacitances:

	Without External Shield	With External Shield [▲]	
Triode Unit:			
Grid to plate	1.8	1.8	μμf
Grid to cathode and heater	2.8	2.8	μμf
Plate to cathode and heater	1.5	2	μμf
Pentode Unit:			
Grid No.1 to plate	0.015 max.	0.007 max.	μμf
Grid No.1 to cathode & grid No.3 & internal shield, grid No.2, and heater	5	5	μμf
Plate to cathode & grid No.3 & internal shield, grid No.2, and heater	2.6	3.5	μμf
Pentode grid No.1 to triode plate	0.2 max.	0.2 max.	μμf
Pentode plate to triode plate	0.1 max.	0.02 max.	μμf
Heater to cathode (Each unit)	3	3 [•]	μμf

Characteristics, Class A₁ Amplifier:

	Triode Unit	Pentode Unit		
Plate Voltage	125	100	125	volts
Grid-No.2 Voltage	—	70	110	volts
Grid-No.1 Voltage	—1	—	—1	volt
Amplification Factor	40	—	—	
Plate Resistance (Approx.)	5400	—	200000	ohms
Transconductance	7500	5500	5000	μmhos
Plate Current	13.5	—	9.5	ma
Grid-No.2 Current	—	—	3.5	ma
Grid-No.1 Voltage (Approx.) for plate μa = 20	—9	—	—8	volts

▲ Indicates a change.

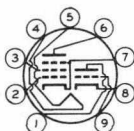


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Mechanical:

Operating Position. Any
 Maximum Overall Length. 2-3/16"
 Maximum Seated Length. 1-15/16"
 Length, Base Seat to Bulb Top (Excluding tip). . . 1-9/16" $\pm$ 3/32"
 → Diameter. 0.750" to 0.875"
 Dimensional Outline. See *General Section*
 Bulb. T6-1/2
 Base. Small-Button Noval 9-Pin (JEDEC No. E9-1)
 Basing Designation for BOTTOM VIEW. 9AE

Pin 1 - Triode Plate
 Pin 2 - Pentode
 Grid No.1
 Pin 3 - Pentode
 Grid No.2
 Pin 4 - Heater
 Pin 5 - Heater
 Pin 6 - Pentode Plate



Pin 7 - Pentode
 Cathode,
 Pentode
 Grid No.3,
 Internal
 Shield
 Pin 8 - Triode Cathode
 Pin 9 - Triode Grid

AMPLIFIER — Class A₁

Maximum Ratings, Design-Maximum Values:

	Triode Unit	Pentode Unit	
PLATE VOLTAGE	330 max.	330 max.	volts
GRID-No.2 (SCREEN-GRID) SUPPLY VOLTAGE.	-	330 max.	volts
GRID-No.2 VOLTAGE	-	See <i>Grid-No.2 Input</i>	
<i>Rating Chart at front of Receiving Tube Section</i>			
GRID-No.1 (CONTROL-GRID) VOLTAGE:			
Positive-bias value	0 max.	0 max.	volts
GRID-No.2 INPUT:			
For grid-No.2 voltages up to 165 volts	-	0.55 max.	watt
For grid-No.2 voltages between 165 and 330 volts	-	See <i>Grid-No.2 Input</i>	
<i>Rating Chart at front of Receiving Tube Section</i>			
PLATE DISSIPATION	2.5 max.	3 max.	watts
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

Maximum Circuit Values:

	Triode Unit	Pentode Unit	
Grid-No.1-Circuit Resistance:			
For fixed-bias operation.	-	0.5 max.	megohm
For cathode-bias operation.	-	1 max.	megohm

▲ With external shield JEDEC No.315 connected to pin 4 except as noted.

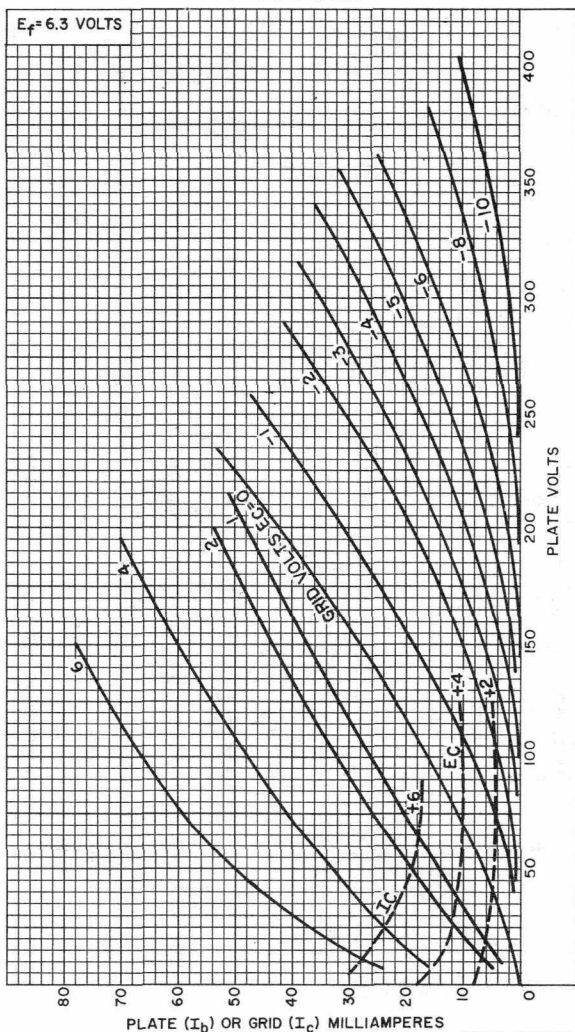
● With external shield JEDEC No.315 connected to pin 6.

★ The dc component must not exceed 100 volts.

→ Indicates a change.

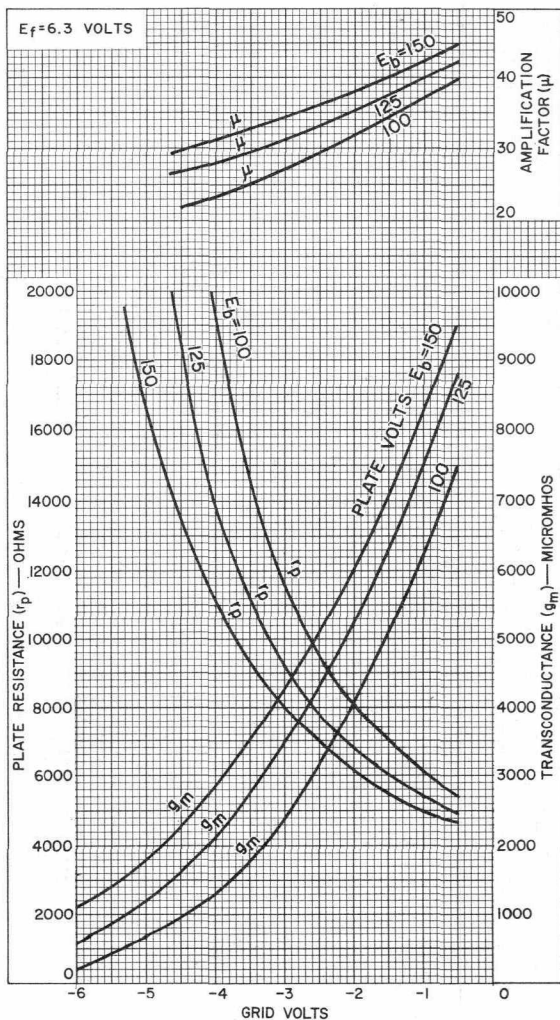


AVERAGE CHARACTERISTICS Triode Unit



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AVERAGE CHARACTERISTICS Triode Unit

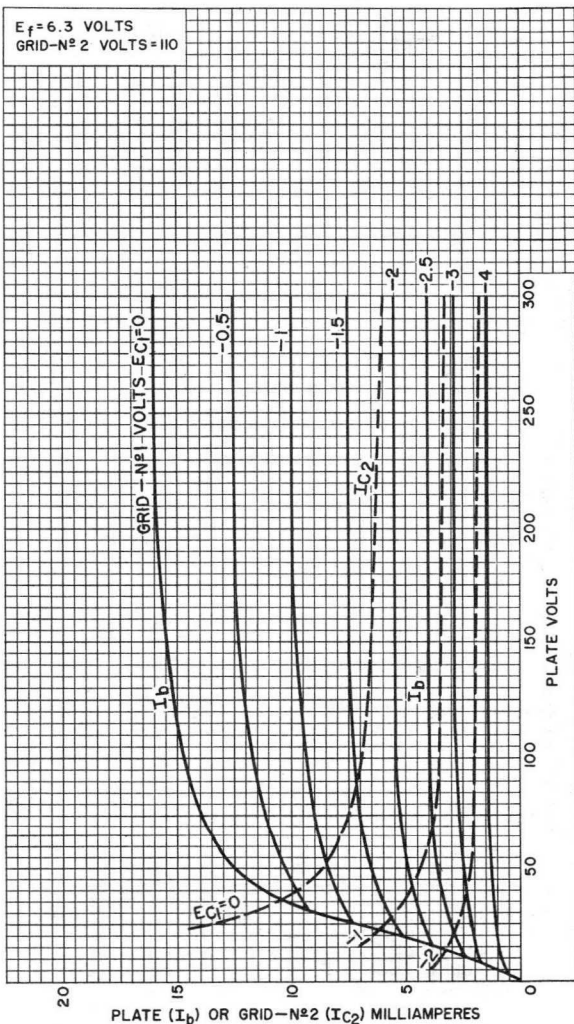


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AVERAGE CHARACTERISTICS Pentode Unit

$E_f = 6.3$ VOLTS
GRID-N^o 2 VOLTS = 110



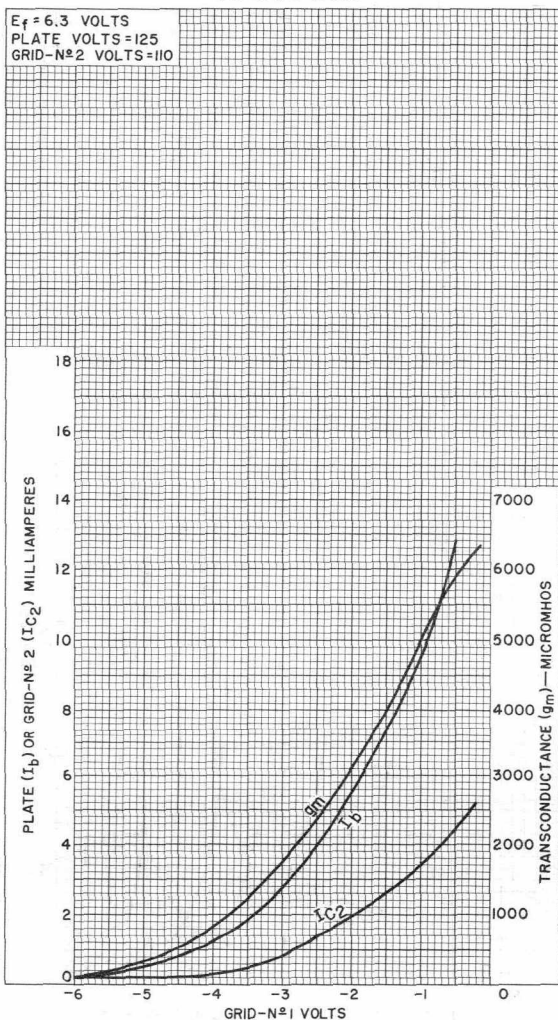
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AVERAGE CHARACTERISTICS Pentode Unit

$E_f = 6.3$ VOLTS
PLATE VOLTS = 125
GRID-№2 VOLTS = 110



92CM-10902

