

# Medium-Mu Triode— Sharp-Cutoff Pentode

## 9-PIN MINIATURE TYPE

With Heater Having Controlled Warm-Up Time

### GENERAL DATA

#### Electrical:

Heater Characteristics and Ratings (*Design-Maximum Values*):

Voltage (AC or DC) . . . . .	6.3 <sup>a</sup>	6.3 ± 0.6	volts
Current . . . . .	0.450 ± 0.030	0.450 <sup>b</sup>	amp
Warm-up time (Average) . . . . .	11	-	sec
Peak heater-cathode voltage:			
Heater negative with respect to cathode . . . . .	200	max.	volts
Heater positive with respect to cathode . . . . .	200 <sup>c</sup>	max.	volts

Direct Interelectrode Capacitances:

	Without External Shield	With External Shield <sup>d</sup>	
<i>Triode Unit:</i>			
Grid to plate . . . . .	1.3	1.2	μf
Grid to cathode and heater . . . . .	2.8	3.2	μf
Plate to cathode and heater . . . . .	0.44	0.9	μf
<i>Pentode Unit:</i>			
Grid No.1 to plate . . . . .	0.038 max.	0.018 max.	μf
Grid No.1 to cathode & grid No.3 & internal shield, grid No.2, and heater . . . . .	4.8	5.0	μf
Plate to cathode & grid No.3 & internal shield, grid No.2, and heater . . . . .	0.9	1.6	μf
Pentode grid No.1 to triode plate . . . . .	0.05 max.	0.036 max.	μf
Pentode plate to triode plate . . . . .	0.075 max.	0.012 max.	μf
Heater to cathode . . . . .	6.5	6.5 <sup>e</sup>	μf

#### Characteristics, Class A<sub>1</sub> Amplifier:

	Triode Unit		Pentode Unit	
Plate Voltage . . . . .	125	100	125	volts
Grid-No.2 Voltage . . . . .	-	70	125	volts
Grid-No.1 Voltage . . . . .	-1	0	-1	volt
Amplification Factor . . . . .	40	-	-	
Plate Resistance (Approx.) . . . . .	6000	-	300000	ohms
Transconductance . . . . .	6500	5700	5500	μmhos



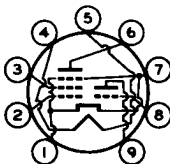
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	Triode Unit	Pentode Unit	
Plate Current. . . . .	12	- 9	ma
Grid-No.2 Current. . . . .	-	- 2.2	ma
Grid-No.1 Voltage (Approx.) for plate $\mu = 20$ . . . . .	-7	- 6.5	volts

## Mechanical:

Operating Position . . . . .	Any
Type of Cathode. . . . .	Coated Unipotential
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 <i>General Section</i>
Bulb . . . . .	T6-1/2
Base . . . . .	Small-Button Noval 9-Pin (JEDEC No.E9-1)
Basing Designation for BOTTOM VIEW . . . . .	.9PA

- Pin 1 - Pentode  
Grid No.3,  
Cathode,  
Internal  
Shield
- 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  
Grid No.3,  
Cathode,  
Internal  
Shield
- Pin 8 - Triode Grid
- Pin 9 - Triode Plate

## AMPLIFIER — Class A<sub>1</sub>

### Maximum Ratings, Design-Maximum Values:

	Triode Unit	Pentode Unit	
PLATE VOLTAGE. . . . .	275 max.	275 max.	volts
GRID-No.2 (SCREEN-GRID) SUPPLY VOLTAGE . . . . .	-	275 max.	volts
GRID-No.2 VOLTAGE. . . . .	-	See <i>Grid-No.2 Input</i>	
<i>Rating Chart</i> at front of Receiving Tube Section			
GRID-No.1 (CONTROL-GRID) VOLTAGE:			
Positive-bias value. . . . .	0 max.	0 max.	volts
PLATE DISSIPATION. . . . .	1.7 max.	2.3 max.	watts
GRID-No.2 INPUT:			
For grid-No.2 voltages up to 137.5 volts. . . . .	-	0.45 max.	watt
For grid-No.2 voltages between 137.5 and 275 volts. . . . .	-	See <i>Grid-No.2 Input</i>	
<i>Rating Chart</i> at front of Receiving Tube Section			

### Maximum Circuit Values:

	Triode Unit	Pentode Unit	
Grid-No.1-Circuit Resistance:			
For fixed-bias operation . . . . .	-	0.1 max.	megohm
For cathode-bias operation. . . . .	-	0.5 max.	megohm



- a At heater amperes = 0.450.
- b At heater volts = 6.3.
- c The dc component must not exceed 100 volts.
- d With external shield JEDEC No.315 connected to pin 3 except as noted.
- e With external shield JEDEC No.315 connected to pin 6.

