



6CM8

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HIGH-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	$0.45 \pm 6\%$	amp
Warm-up time (Average)	11	sec

Direct Interelectrode Capacitances:⁰

Triode Unit:

Grid to plate	1.9	μf
Grid to cathode and heater	1.6	μf
Plate to cathode and heater	0.22	μf

Pentode Unit:

Grid No.1 to plate	0.04 max.	μf
Grid No.1 to cathode & grid No.3 & internal shield, grid No.2, and heater	6	μf
Plate to cathode & grid No.3 & internal shield, grid No.2, and heater	2.6	μf
Triode grid to pentode plate	0.01 max.	μf
Pentode grid No.1 to triode plate	0.15 max.	μf
Pentode plate to triode plate	0.1 max.	μf

Characteristics, Class A₁ Amplifier:

	Triode Unit	Pentode Unit	
Plate Supply Voltage	250	250	volts
Grid-No.2 Supply Voltage	—	150	volts
Grid-No.1 Voltage	-2	0	volts
Cathode Resistor	—	180	ohms
Amplification Factor	100	—	
Plate Resistance (Approx.)	0.05	0.6	megohm
Transconductance	2000	6200	μmhos
Plate Current	1.8	9.5	ma
Grid-No.2 Current	—	2.8	ma
Grid-No.1 Voltage (Approx.) for plate $\mu\text{a} = 10$	—	-8	volts

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

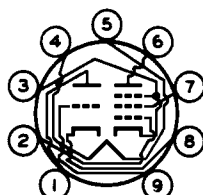
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Base. Small-Button Noval 9-Pin (JEDEC No.E9-1)
Basing Designation for BOTTOM VIEW. 9FZ

Pin 1—Triode Plate
Pin 2—Pentode
Grid No.1
Pin 3—Pentode
Cathode,
Pentode
Grid No.3,
Internal
Shield
Pin 4—Heater



Pin 5—Heater
Pin 6—Pentode
Plate
Pin 7—Pentode
Grid No.2
Pin 8—Triode
Cathode
Pin 9—Triode
Grid

AMPLIFIER — Class A₁

Maximum Ratings, Design-Center Values:

	Triode Unit	Pentode Unit	
PLATE VOLTAGE.	300 max.	300 max.	volts
GRID-No.2 (SCREEN-GRID) 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
GRID-No.2 INPUT:			
For grid-No.2 voltages up to 150 volts.	—	0.5 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

PLATE DISSIPATION.	1 max.	2 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.	0.25 max.	0.25 max.	megohm
For cathode-bias operation.	1 max.	1 max.	megohm



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○ Without external shield.

▲ The dc component must not exceed 100 volts.

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.