

Medium-Mu Triode— Sharp-Cutoff Pentode

9-PIN MINIATURE TYPE

GENERAL DATA

Electrical: ←

Heater, for Unipotential Cathode:

| | | |
|-------------------------------|-----------|-------|
| Voltage (AC or DC) | 6.3 ± 10% | volts |
| Current at 6.3 volts. | 0.45 | amp |

Direct Interelectrode Capacitances:

| | <i>Without External Shield</i> | <i>With External Shield^A</i> | |
|---|--|---|----|
| <i>Triode Unit:</i> | | | |
| Grid to plate | 1.5 | 1.5 | μf |
| Grid to cathode and heater. | 2 | 2.4 | μf |
| Plate to cathode and heater. | 0.5 | 1 | μf |
| <i>Pentode Unit:</i> | | | |
| Grid No.1 to plate. | 0.09 max. | 0.06 max. | μf |
| Grid No.1 to cathode, grid No.3, grid No.2, and heater. | 4.6 | 4.8 | μf |
| Plate to cathode, grid No.3, grid No.2, and heater. | 0.9 | 1.6 | μf |
| Pentode grid No.1 to triode plate. | 0.05 max. | 0.04 max. | μf |
| Pentode plate to triode plate. | 0.05 max. | 0.008 max. | μf |
| Heater to cathode | 6.5 | 6.5 ^B | μf |

Characteristics, Class A₁ Amplifier: ←

| | <i>Triode Unit</i> | <i>Pentode Unit</i> | | |
|---|------------------------|---|--------|-------|
| Plate Voltage | 125 | 100 | 125 | volts |
| Grid No.3 | — | <i>Connected to cathode at socket</i> | | |
| Grid-No.2 Voltage | — | 70 | 125 | volts |
| Grid-No.1 Voltage | -1 | — | -1 | volt |
| Amplification Factor. | 40 | — | — | |
| Plate Resistance (Approx.) | 6000 | — | 300000 | ohms |
| Transconductance. | 6500 | 5700 | 5500 | μmhos |
| Plate Current | 12 | — | 9 | ma |
| Grid-No.2 Current | — | — | 2.2 | ma |
| Grid-No.1 Voltage (Approx.) for plate $\mu_a = 20$ | -7 | — | -6.5 | volts |

← Indicates a change.



6X8

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" ± 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 | 9AK |

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



- Pin 6 - Cathode
- Pin 7 - Pentode
Grid No.1
- Pin 8 - Pentode
Grid No.2
- Pin 9 - Pentode Plate

AMPLIFIER — Class A₁

Maximum Ratings, Design-Maximum Values:

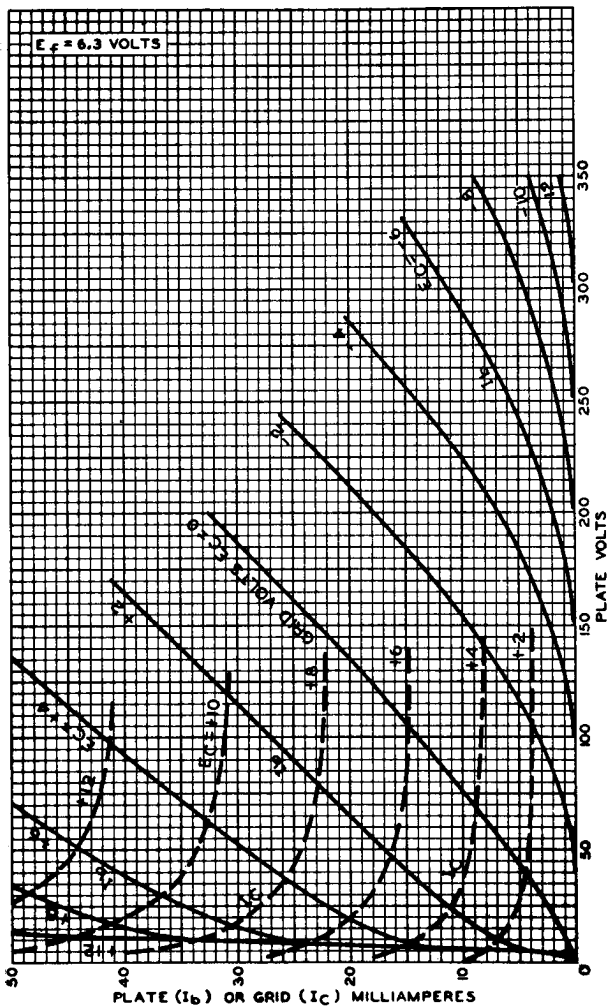
| | Triode Unit | Pentode Unit |
|---|----------------|---------------------------------|
| PLATE VOLTAGE | 275 max. | 275 max. volts |
| GRID No.3 (SUPPRESSOR GRID) | - | Connect to cathode at socket |
| GRID-No.2 (SCREEN-GRID) SUPPLY VOLTAGE | - | 275 max. volts |
| GRID-No.2 VOLTAGE | - | See Grid-No.2 Input |
| <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 137.5 volts | - | 0.45 max. watt |
| For grid-No.2 voltages between 137.5 and 275 volts | - | See Grid-No.2 Input |
| <i>Rating Chart at front of Receiving Tube Section</i> | | |
| PLATE DISSIPATION | 1.7 max. | 2.3 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 |

- ▲ With external shield JEDEC NO.315 connected to cathode except as noted.
- With external shield JEDEC NO.315 connected to pentode plate.
- ★ The dc component must not exceed 100 volts.

→ Indicates a change.



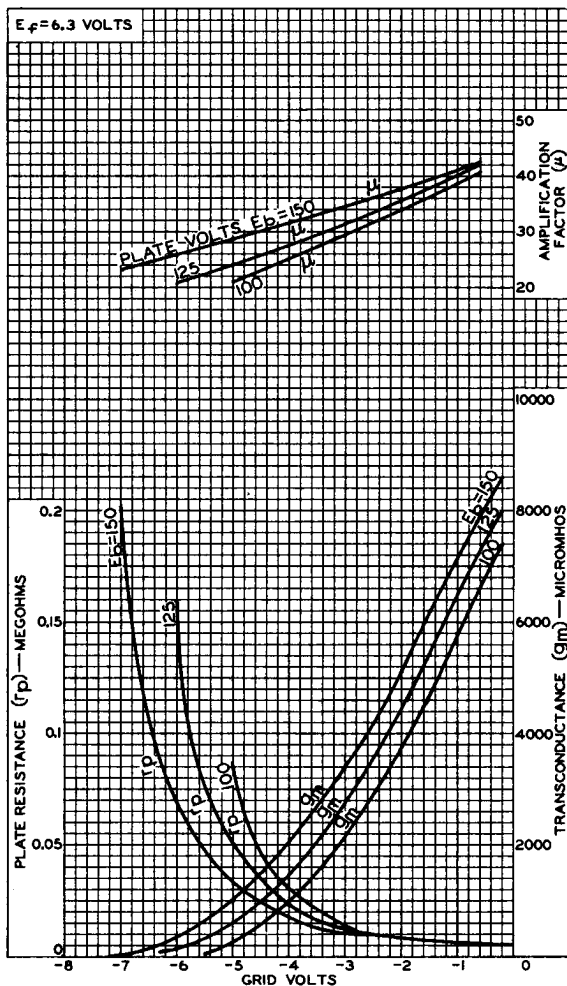
AVERAGE CHARACTERISTICS Triode Unit



92CM-7531



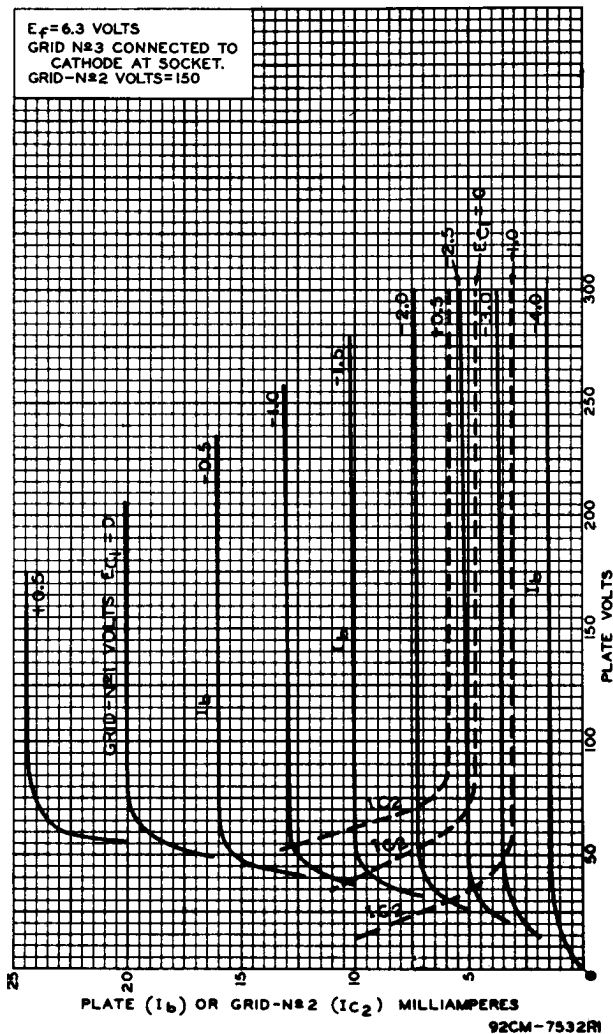
AVERAGE CHARACTERISTICS Triode Unit



92CM-10809

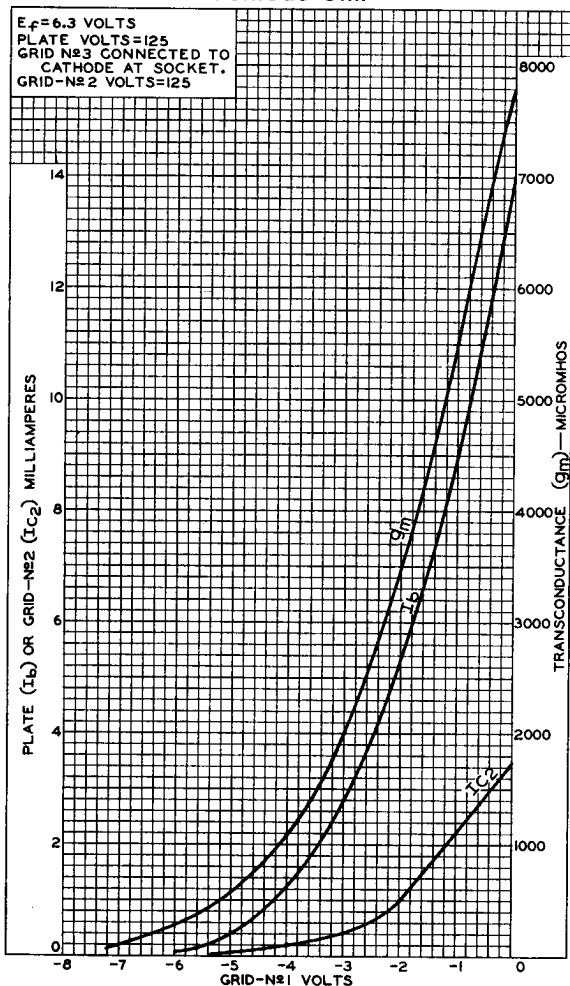


AVERAGE CHARACTERISTICS Pentode Unit



6X8

AVERAGE CHARACTERISTICS Pentode Unit



92CM-10810

