

Beam Power Tube

FORCED-AIR COOLED

GENERAL DATA

Electrical:

Filament, Thoriated Tungsten:

Voltage (AC or DC). 5.0 ± 5% volts

Current at filament volts = 5.0 14.5 amp

Transconductance, for plate volts

= 2500, grid-No.2 volts = 500, and

plate ma. = 100 4000 μ mhos

Mu-Factor, Grid No.2 to Grid No.1 5.1

Direct Interelectrode Capacitances:^a

Grid No.1 to plate. 0.12 max. μ f

Grid No.1 to filament, grid No.2,
and base shell. 13.0 μ f

Plate to filament, grid No.2,
and base shell. 4.6 μ f

Mechanical:

Operating Position. Vertical, base down or up

Maximum Overall Length. 6-3/8"

Seated Length. 5-3/8" ± 1/4"

Maximum Diameter. 3-9/16"

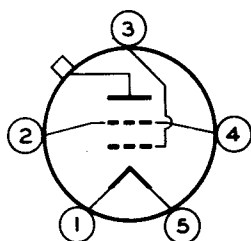
Weight (Approx.). 8 oz

Cap. Skirted Small (JEDEC No.C1-22)

Base^b Special Metal-Shell Giant 5-Pin

Basing Designation for BOTTOM VIEW. 5BK

Pin 1 - Filament
Pin 2 - Grid No.2
Pin 3 - Grid No.1



Pin 4 - Grid No.2
Pin 5 - Filament
Cap - Plate

Thermal:

Forced-Air Cooling:

Upward through base toward bulb:

Base-cooling air flow from a small fan or centrifugal blower should be applied simultaneously with filament power. In continuous service at frequencies below 30 Mc, 2 cfm at a static pressure of 0.1 inch of water are required through the base; at frequencies above 30 Mc, 5 cfm at a static pressure of 0.2 inch of water are required. In intermittent service, regardless of the operating frequency, an air flow of 5 cfm through the base must be maintained.

← Indicates a change.



4-250A/5D22

To bulb and plate seal:

Continuous Service: At frequencies below 30 Mc, relatively slow movement of air past the bulb is sufficient to prevent exceeding the specified plate-seal temperature of 170° C. At frequencies above 30 Mc, special attention should be given to adequate cooling of bulb and plate seal. A small stream of air directed toward the upper part of the bulb will generally provide sufficient cooling.

Plate-Seal Temperature (Measured on top of plate cap):

Continuous service. 170 max. °C

Components:

Socket. . . E.F. Johnson Co. Socket No.122-275, or equivalent
Heat-Radiating Plate Connector. . . Eimac HR-6, or equivalent

AF POWER AMPLIFIER & MODULATOR — Class AB₁^c

Maximum CCS^d Ratings, Absolute-Maximum Values:

DC PLATE VOLTAGE.	4000 max.	volts
DC GRID-No.2 VOLTAGE.	600 max.	volts
MAX.-SIGNAL DC PLATE CURRENT ^e	350 max.	ma
GRID-No.2 INPUT ^e	35 max.	watts
GRID-No.1 INPUT ^e	10 max.	watts
PLATE DISSIPATION ^e	250 max.	watts

AF POWER AMPLIFIER & MODULATOR — Class AB₂^f

Maximum CCS^d Ratings, Absolute-Maximum Values:

DC PLATE VOLTAGE.	4000 max.	volts
DC GRID-No.2 VOLTAGE.	600 max.	volts
MAX.-SIGNAL DC PLATE CURRENT ^e	350 max.	ma
GRID-No.2 INPUT ^e	35 max.	watts
GRID-No.1 INPUT ^e	10 max.	watts
PLATE DISSIPATION ^e	250 max.	watts

PLATE-MODULATED RF POWER AMPLIFIER — Class C Telephony

*Carrier conditions per tube for use
with a maximum modulation factor of 1*

Maximum CCS^d Ratings, Absolute-Maximum Values:

→	Up to 75 Mc	
DC PLATE VOLTAGE.	3200 max.	volts
DC GRID-No.2 VOLTAGE.	600 max.	volts
DC GRID-No.1 VOLTAGE.	-500 max.	volts
DC PLATE CURRENT.	275 max.	ma
GRID-No.2 INPUT	35 max.	watts
GRID-No.1 INPUT	10 max.	watts
PLATE DISSIPATION	165 max.	watts

→ Indicates a change.



4-250A/5D22

RF POWER AMPLIFIER & OSCILLATOR — Class C Telegraphy^g and

RF POWER AMPLIFIER — Class C FM Telephony

Maximum CCS^d Ratings, Absolute Maximum Values:

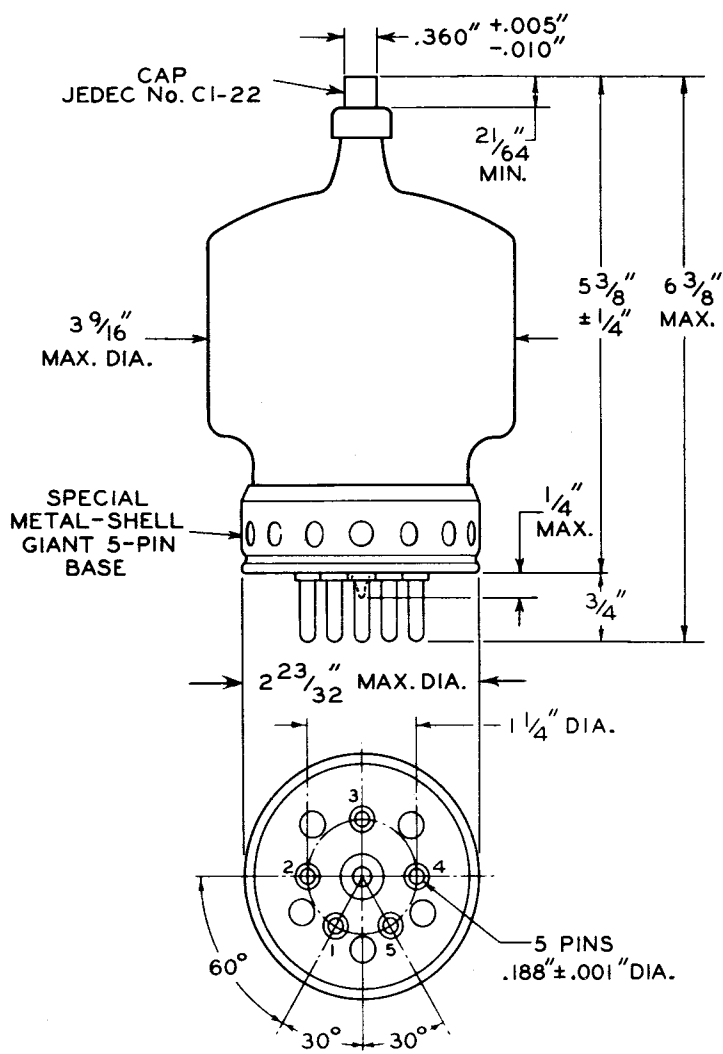
	Up to 75 Mc	
DC PLATE VOLTAGE.	4000 max.	volts
DC GRID-No.2 VOLTAGE.	600 max.	volts
DC GRID-No.1 VOLTAGE.	-500 max.	volts
DC PLATE CURRENT.	350 max.	ma
GRID-No.2 INPUT	35 max.	watts
GRID-No.1 INPUT	10 max.	watts
PLATE DISSIPATION	250 max.	watts

- ^a without external shield.
- ^b Metal base shell should be grounded by means of suitable spring fingers.
- ^c Subscript 1 indicates that grid-No.1 current does not flow during any part of input cycle.
- ^d Continuous Commercial Service.
- ^e Averaged over any audio-frequency cycle of sine-wave form.
- ^f Subscript 2 indicates that grid-No.1 current flows during some part of input cycle.
- ^g Key-down conditions per tube without amplitude modulation. Amplitude modulation essentially negative may be used if the positive peak of the audio-frequency envelope does not exceed 115 per cent of the carrier conditions.

← Indicates a change.



4-250A/5D22



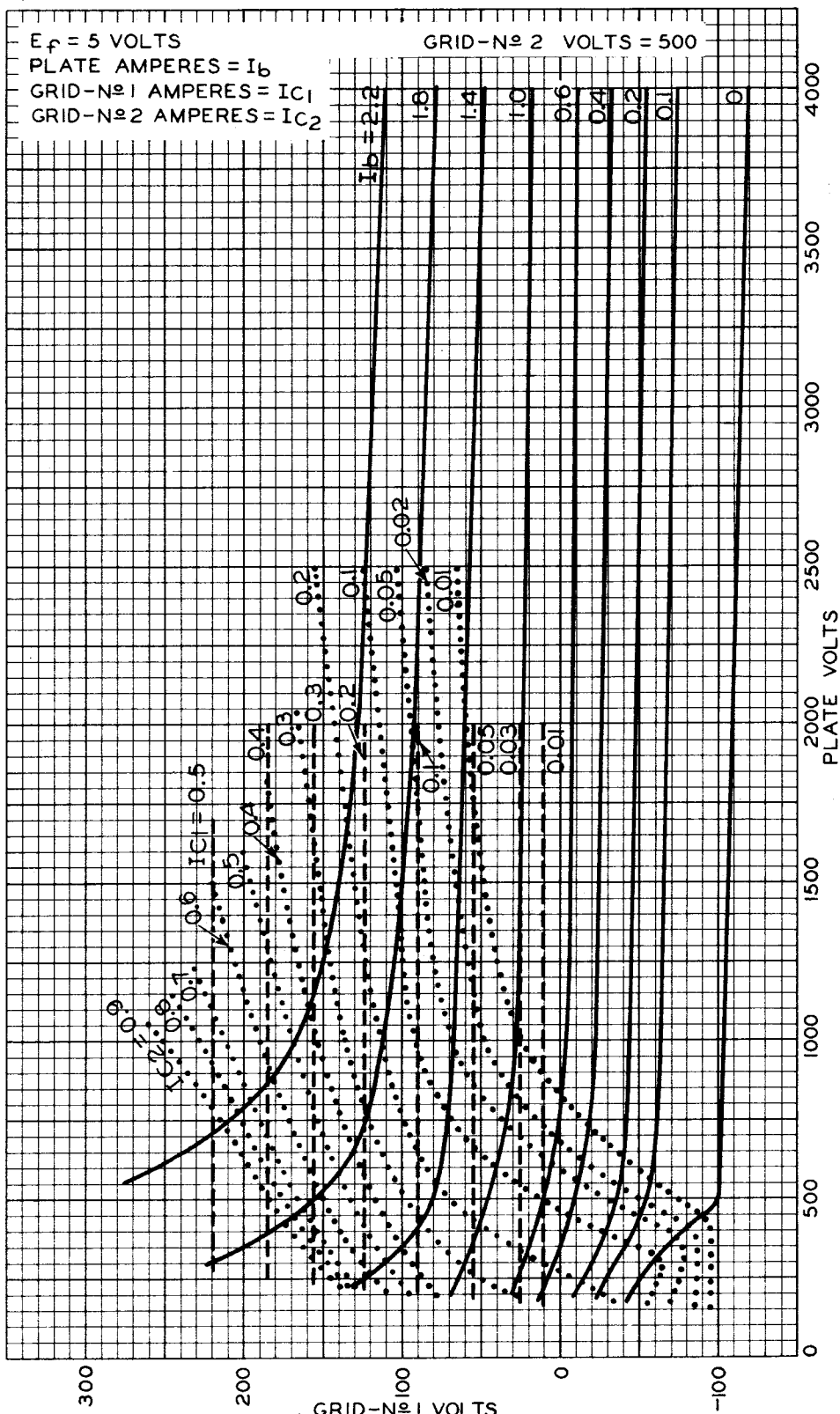
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4-250A



4-250A / 5D22

AVERAGE CONSTANT-CURRENT CHARACTERISTICS



SEPT. 23, 1948

 TUBE DEPARTMENT
 RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

92CM-7078