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# SHARP-CUTOFF PENTODE

MINIATURE TYPE

Useful at Frequencies up to 400 Mc

## GENERAL DATA

### Electrical:

Heater, for Unipotential Cathode:

Voltage . . . . .	6.3	ac or dc volts
Current . . . . .	0.3	amp

Direct Interelectrode Capacitances:

<i>Without Shield</i>	<i>With Shield<sup>o</sup></i>
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#### Pentode Connection:

Grid No.1 to plate . . . .	0.030 max.	0.020 max.	$\mu f$
Grid No.1 to cathode & grid No.3 & internal shield, grid No.2, and heater. .	6.5	6.6	$\mu f$
Plate to cathode & grid No.3 & internal shield, grid No.2, and heater . .	1.8	3.1	$\mu f$

#### Triode Connection, Grid No.2 tied to Plate:

Grid No.1 to plate and grid No.2 . . . . .	2.5	2.5	$\mu f$
Grid No.1 to cathode & grid No.3 & internal shield, and heater . . .	3.6	3.6	$\mu f$
Plate and grid No.2 to cathode & grid No.3 & internal shield, and heater . . . . .	3	4.3	$\mu f$

### Mechanical:

Mounting Position . . . . . Any

Maximum Overall Length . . . . . 2-1/8"

Maximum Seated Length . . . . . 1-7/8"

Length, Base Seat to Bulb Top (Excluding tip). 1-1/2"  $\pm$  3/32"

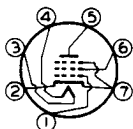
Maximum Diameter . . . . . 3/4"

Bulb . . . . . T-5-1/2

Base . . . . . Small-Button Miniature 7-Pin (JETEC No.E7-1)

Basing Designation for BOTTOM VIEW . . . . . 7BD

Pin 1 - Grid No.1  
 Pin 2 - Cathode,  
 Grid No.3,  
 Internal  
 Shield  
 Pin 3 - Heater  
 Pin 4 - Heater



Pin 5 - Plate  
 Pin 6 - Grid No.2  
 Pin 7 - Cathode,  
 Grid No.3,  
 Internal  
 Shield

<sup>o</sup> with external shield JETEC No.316 connected to pin No.7.

←Indicates a change.

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**SHARP-CUTOFF PENTODE**

**AMPLIFIER - Class A<sub>1</sub>**

*Pentode Connection*

**Maximum Ratings, Design-Center Values:**

PLATE VOLTAGE. . . . .	300 max.	volts
GRID-No.2 (SCREEN) SUPPLY VOLTAGE. . . . .	300 max.	volts
GRID-No.2 VOLTAGE. . . . .	<i>See Grid-No.2 Input Rating Chart at front of Receiving Tube Section</i>	
GRID-No.1 (CONTROL-GRID) VOLTAGE:		
Positive bias value. . . . .	0 max.	volts
PLATE DISSIPATION. . . . .	2 max.	watts
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. . . . .	<i>See Grid-No.2 Input Rating Chart at front of Receiving Tube Section</i>	
PEAK HEATER-CATHODE VOLTAGE:		
Heater negative with respect to cathode . . . . .	90 max.	volts
Heater positive with respect to cathode . . . . .	90 max.	volts

**Typical Operation and Characteristics:**

Plate Voltage. . . . .	100	125	250	volts
Grid-No.2 Voltage. . . . .	100	125	150	volts
Cathode-Bias Resistor. . . . .	180	100	180	ohms
Plate Resistance (Approx.) . . . . .	0.6	0.5	0.8	megohm
Transconductance . . . . .	4500	5100	5000	μmhos
Plate Current. . . . .	4.5	7.2	6.5	ma
Grid-No.2 Current. . . . .	1.4	2.1	2.0	ma
Grid-No.1 Voltage (Approx.) for plate current = 10 μamp . . . . .	-5	-6	-8	volts

**AMPLIFIER - Class A<sub>1</sub>**

*Triode Connection - Grid No.2 Connected to Plate*

**Maximum Ratings, Design-Center Values:**

PLATE VOLTAGE. . . . .	300 max.	volts
GRID-No.1 (CONTROL-GRID) VOLTAGE:		
Positive bias value. . . . .	0 max.	volts
PLATE AND GRID-No.2 DISSIPATION (TOTAL). . . . .	2.5 max.	watts
PEAK HEATER-CATHODE VOLTAGE:		
Heater negative with respect to cathode . . . . .	90 max.	volts
Heater positive with respect to cathode . . . . .	90 max.	volts

**Typical Operation and Characteristics:**

Plate Voltage. . . . .	180	250	volts
Cathode-Bias Resistor. . . . .	330	820	ohms
Plate Resistance* (Approx.) . . . . .	0.008	0.01	megohm
Amplification Factor . . . . .	45	42	
Transconductance . . . . .	5700	3800	μmhos
Plate & Grid-No.2 Current (Total). . . . .	7	5.5	ma

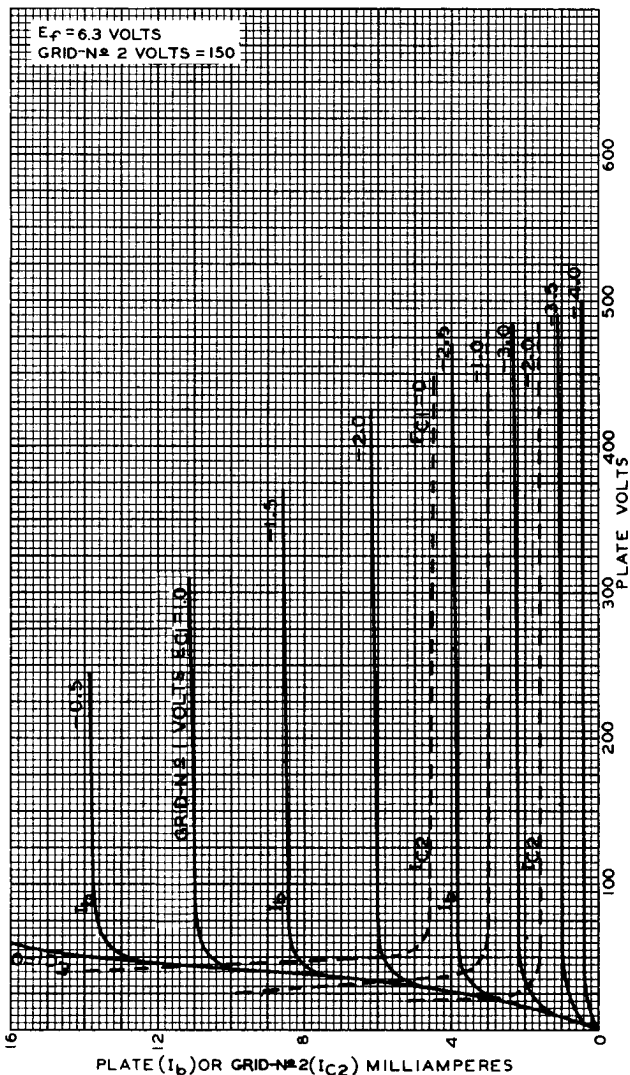
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# AVERAGE PLATE CHARACTERISTICS

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DEC. 27, 1954

TUBE DIVISION

92CM-6399R2

RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

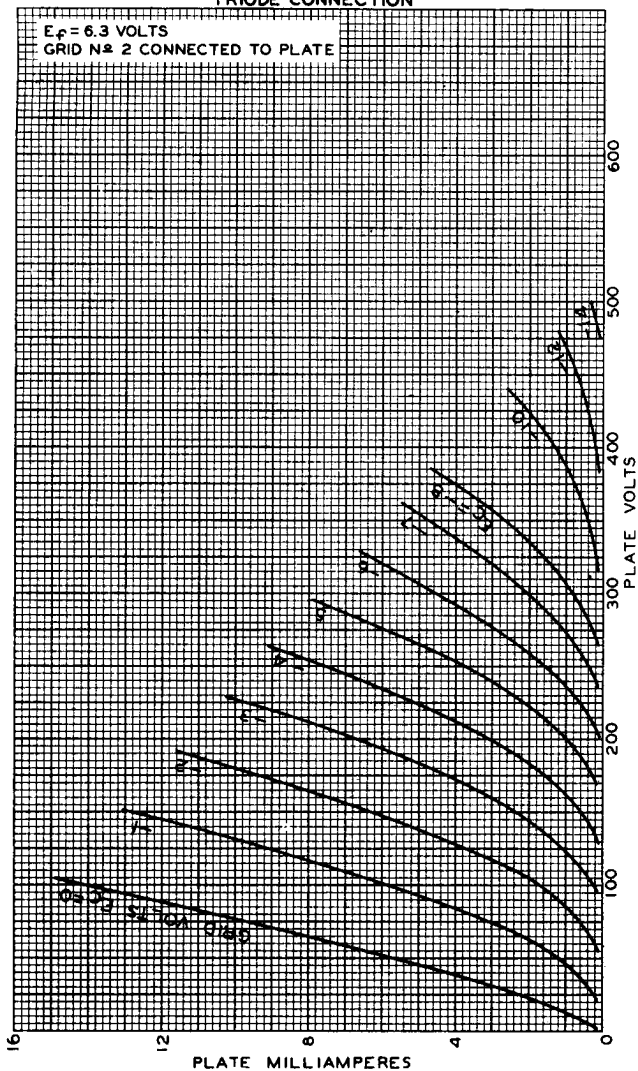
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## AVERAGE PLATE CHARACTERISTICS

### TRIODE CONNECTION



DEC. 28, 1954

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