

# 6DE7

## Dual Triode

### With Medium-Mu Unit and Low-Mu Unit

#### 9-PIN MINIATURE TYPE

#### GENERAL DATA

#### Electrical:

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

Voltage (AC or DC) . . . . . 6.3 ± 0.6 volts

Current at heater volts = 6.3 . . . . . 0.900 amp

Peak heater-cathode voltage (Each unit):

Heater negative with respect to cathode . . . . . 200 max. volts

Heater positive with respect to cathode . . . . . 200<sup>a</sup> max. volts

Direct Interelectrode Capacitances (Approx.):<sup>b</sup>

|                                 | Unit No.1 | Unit No.2 |     |
|---------------------------------|-----------|-----------|-----|
| Grid to plate . . . . .         | 4.0       | 8.5       | μμf |
| Grid to cathode and heater. . . | 2.2       | 5.5       | μμf |
| Plate to cathode and heater . . | 0.52      | 1.0       | μμf |

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

|                                   | Unit No.1 | Unit No.2          |       |
|-----------------------------------|-----------|--------------------|-------|
| Plate Voltage . . . . .           | 250       | 60 150             | volts |
| Grid Voltage. . . . .             | -11       | 0 -17.5            | volts |
| Amplification Factor. . . . .     | 17.5      | - 6                |       |
| Plate Resistance (Approx.). . . . | 8750      | - 925              | ohms  |
| Transconductance. . . . .         | 2000      | - 6500             | μmhos |
| Plate Current . . . . .           | 5.5       | 80 <sup>c</sup> 35 | ma    |
| Plate Current for grid volts =    |           |                    |       |
| -24 . . . . .                     | -         | - 10               | ma    |
| Grid Voltage (Approx.) for plate  |           |                    |       |
| μa = 10 . . . . .                 | -20       | - -                | volts |
| Grid Voltage (Approx.) for plate  |           |                    |       |
| μa = 50 . . . . .                 | -         | - -44              | volts |

#### Mechanical:

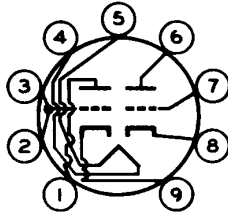
Operating Position. . . . . Any  
 Type of Cathodes. . . . . Coated Unipotential  
 Maximum Overall Length. . . . . 2-5/8"  
 Maximum Seated Length . . . . . 2-3/8"  
 Length, Base Seat to Bulb Top (Excluding tip). . . . . 2" ± 3/32"  
 Diameter. . . . . 0.750" to 0.875"  
 Dimensional Outline . . . . . See *General Section*  
 Bulb. . . . . T6-1/2  
 Base. . . . . Small-Button Noval 9-Pin (JEDEC No.E9-1)



# 6DE7

Basing Designation for BOTTOM VIEW. . . . . 9HF

Pin 1 - Plate of Unit No.2  
 Pin 2 - Grid of Unit No.2  
 Pin 3 - Grid of Unit No.2  
 Pin 4 - Heater  
 Pin 5 - Heater



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

## VERTICAL-DEFLECTION OSCILLATOR

Values are for Unit No.1

### Maximum Ratings, Design-Maximum Values:

For operation in a 525-line, 30-frame system<sup>d</sup>

|   |          |       |
|---|----------|-------|
| DC PLATE VOLTAGE. . . . .                 | 330 max. | volts |
| PEAK NEGATIVE-PULSE GRID VOLTAGE. . . . . | 400 max. | volts |
| CATHODE CURRENT:                          |          |       |
| Peak. . . . .                             | 77 max.  | ma    |
| Average . . . . .                         | 22 max.  | ma    |
| → PLATE DISSIPATION . . . . .             | 1.5 max. | watts |

### Maximum Circuit Values:

Grid-Circuit Resistance:

For grid-resistor-bias or cathode-bias operation. . . . . 2.2 max. megohms

## VERTICAL-DEFLECTION AMPLIFIER

Values are for Unit No.2

### Maximum Ratings, Design-Maximum Values:

For operation in a 525-line, 30-frame system<sup>d</sup>

|  |           |       |
|--|-----------|-------|
| DC PLATE VOLTAGE. . . . .                                | 275 max.  | volts |
| PEAK POSITIVE-PULSE PLATE VOLTAGE <sup>#</sup> . . . . . | 1500 max. | volts |
| PEAK NEGATIVE-PULSE GRID VOLTAGE. . . . .                | 250 max.  | volts |
| CATHODE CURRENT:   |           |       |
| Peak. . . . .  | 175 max.  | ma    |
| Average . . . . .  | 50 max.   | ma    |
| PLATE DISSIPATION . . . . .                              | 7 max.    | watts |

### Maximum Circuit Values:

Grid-Circuit Resistance:

For grid-resistor-bias or cathode-bias operation. . . . . 2.2 max. megohms

<sup>a</sup> The dc component must not exceed 100 volts.

<sup>b</sup> Without external shield.

<sup>c</sup> This value can be measured by a method involving a recurrent wave form such that the maximum ratings of the tube will not be exceeded.

<sup>d</sup> As described in "Standards of Good Engineering Practice Concerning Television Broadcast Stations," Federal Communications Commission.

→ Indicates a change.





6DE7

6DE7

**DUAL TRIODE**  
**With Medium-Mu Unit and Low-Mu Unit**

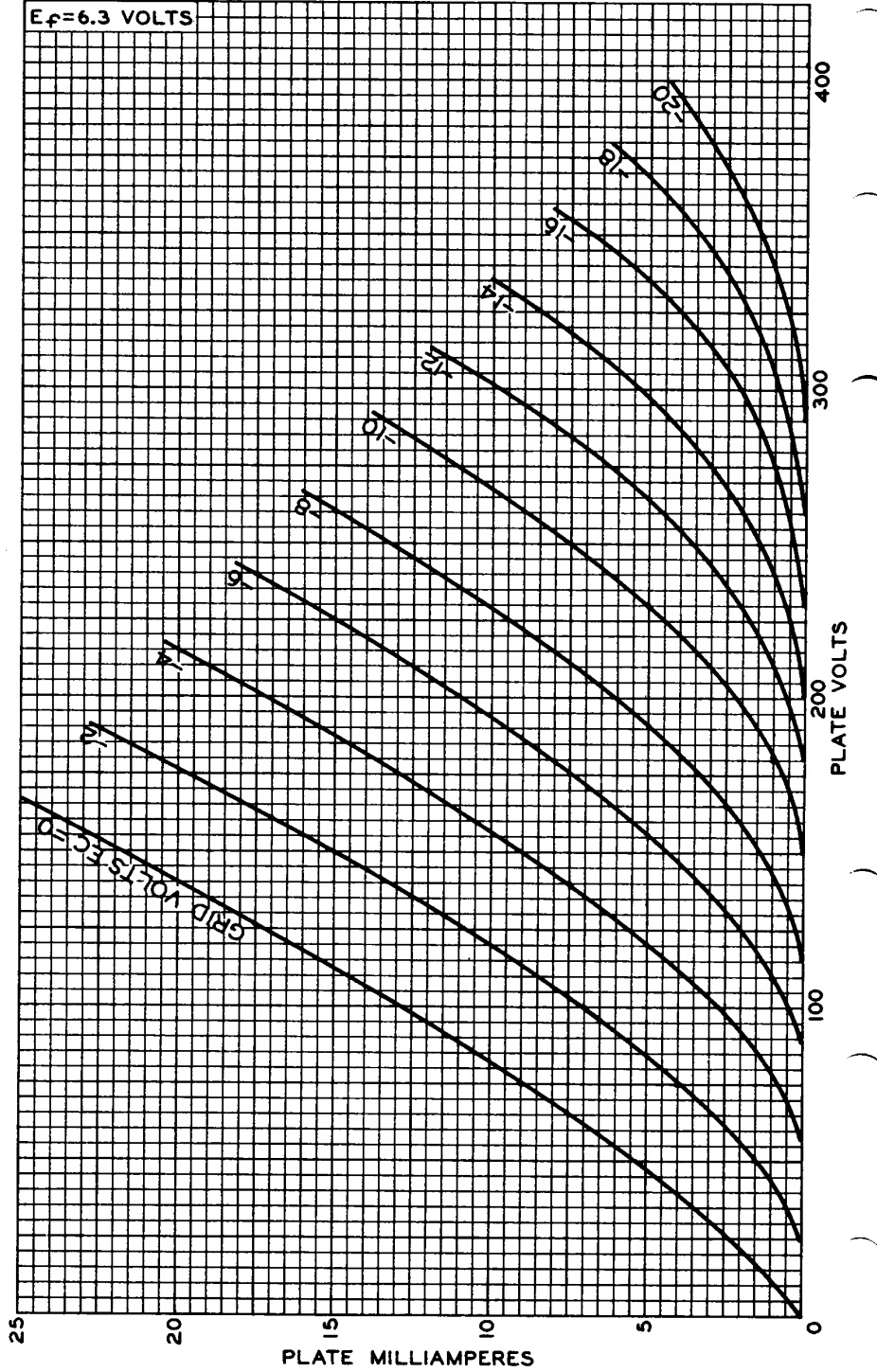
\* This rating is applicable when the duration of the voltage pulse does not exceed 15 per cent of one vertical scanning cycle. In a 525-line, 30-frame system, 15 per cent of one vertical scanning cycle is 2.5 milliseconds.

6DE7



6DE7

AVERAGE PLATE CHARACTERISTICS  
UNIT N<sup>o</sup>1

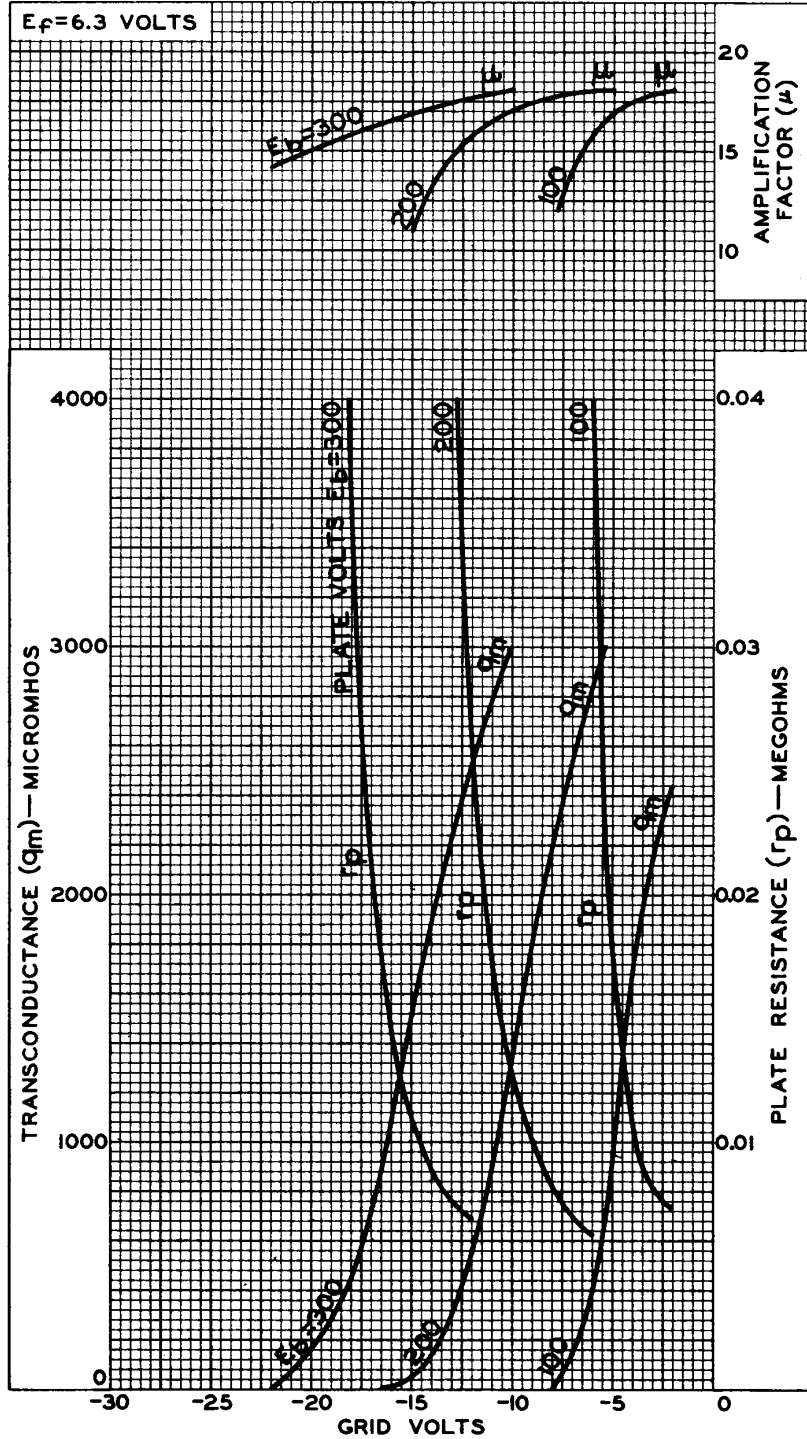




6DE7

AVERAGE CHARACTERISTICS  
UNIT № 1

6DE7

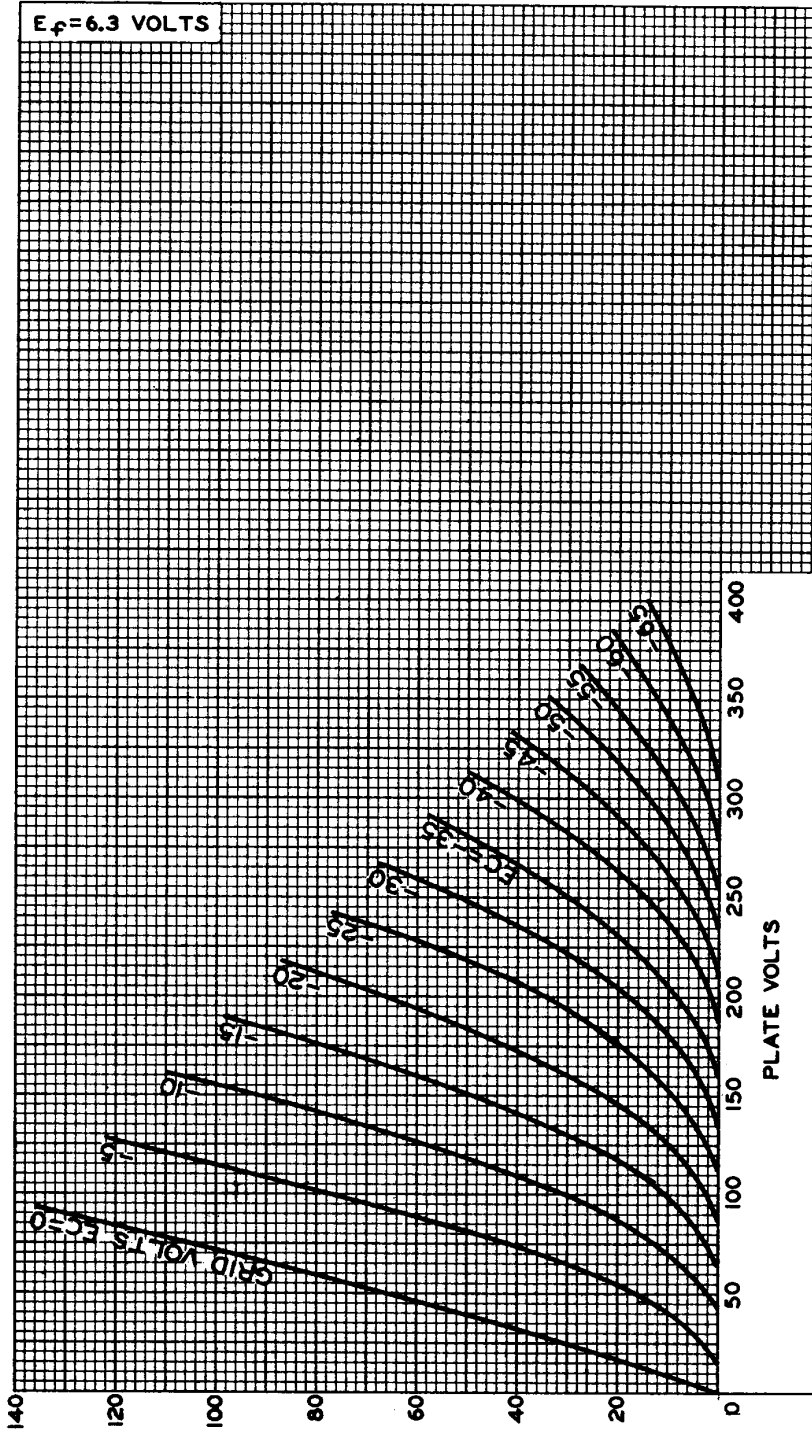


6DE7



6DE7

### AVERAGE PLATE CHARACTERISTICS UNIT No 2



140  
120  
100  
80  
60  
40  
20  
0

PLATE MILLIAMPERES  
ELECTRON TUBE DIVISION  
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

PLATE VOLTS  
0  
50  
100  
150  
200  
250  
300  
350  
400

GRID VOLTS: 0, -0.5, -1.0, -1.5

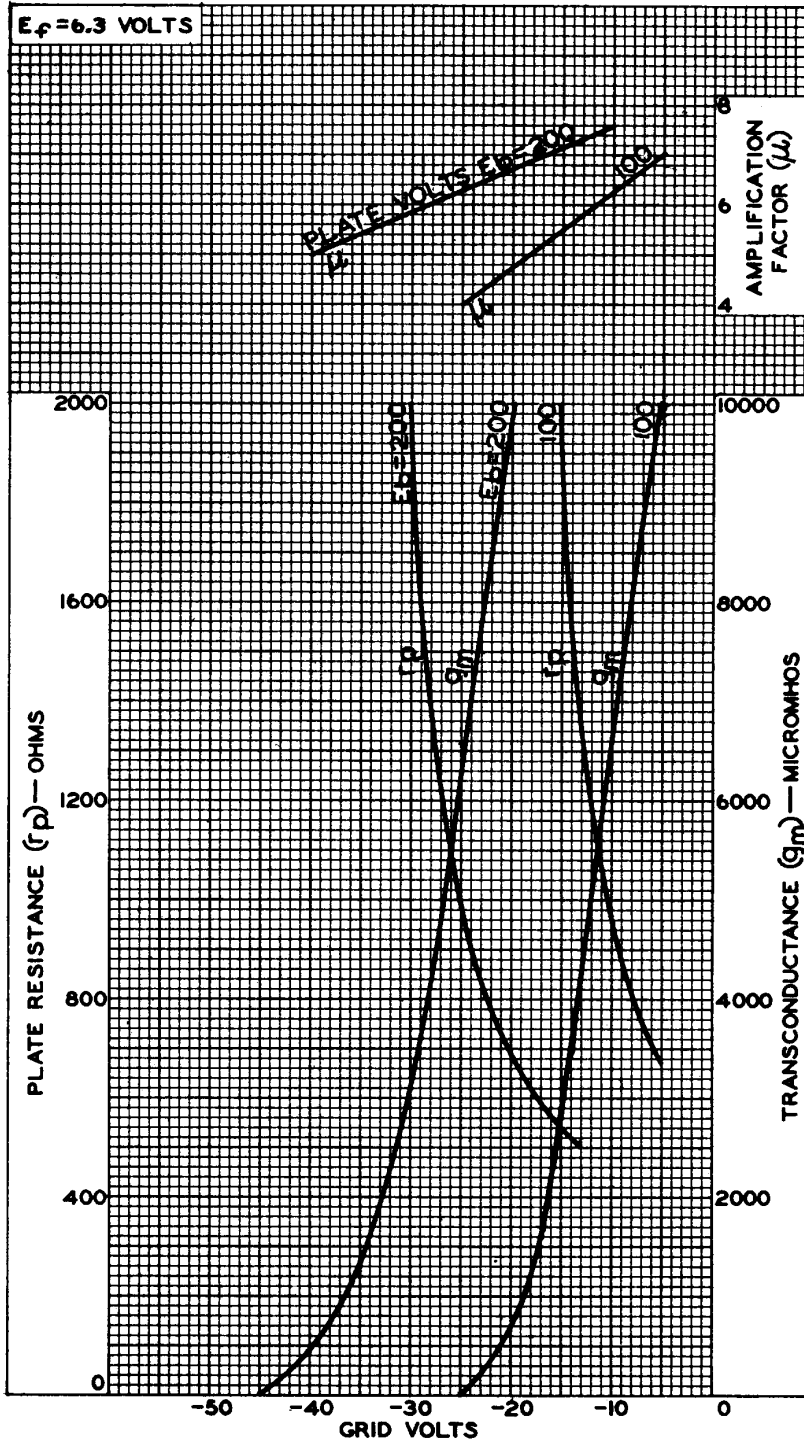
92CM-9913



6DE7

AVERAGE CHARACTERISTICS  
UNIT No 2

6DE7



ELECTRON TUBE DIVISION  
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

92CM-9914