



# 6SN7-GTA

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## MEDIUM-MU TWIN TRIODE

### GENERAL DATA

#### Electrical:

Heater, for Unipotential Cathodes:

Voltage . . . . . 6.3 . . . . . ac or dc volts  
 Current . . . . . 0.6 . . . . . amp

Direct Interelectrode Capacitances (With no external shield):

	Unit No. 1	Unit No. 2	
Grid to plate . . . . .	4	3.8	$\mu\mu\text{f}$
Grid to cathode and heater . .	2.2	2.6	$\mu\mu\text{f}$
Plate to cathode and heater . .	0.7	0.7	$\mu\mu\text{f}$

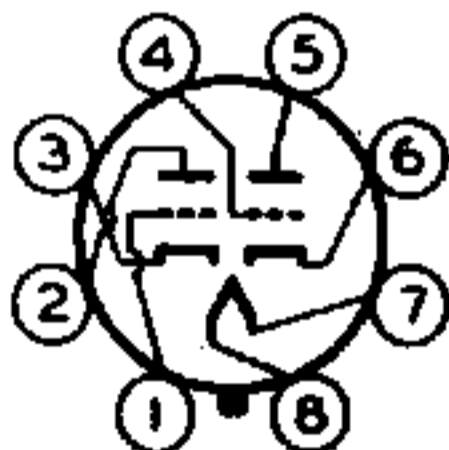
#### Characteristics, Class A<sub>1</sub> Amplifier (Each Unit):

Plate Voltage . . . . .	90	250	volts
Grid Voltage . . . . .	0	-8	volts
Amplification Factor . . . . .	20	20	volts
Plate Resistance (Approx.) . . .	6700	7700	ohms
Transconductance . . . . .	3000	2600	$\mu\text{mhos}$
Plate Current . . . . .	10	9	ma
Plate Current for grid voltage of -12.5 volts . . . . .	-	1.3	ma
Grid Voltage (Approx.) for plate current of 10 $\mu\text{amp}$ . . . . .	-7	-18	volts

#### Mechanical:

Mounting Position . . . . .	Any
Maximum Overall Length . . . . .	3-5/16"
Maximum Seated Length . . . . .	2-3/4"
Maximum Diameter . . . . .	1-9/32"
Bulb . . . . .	T-9
Base . . . . .	Short Intermediate-Shell Octal 8-Pin with External Barriers (JETEC No. B8-58)
Basing Designation for BOTTOM VIEW . . . . .	8BD

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



Pin 5 - Plate of Unit No. 1  
 Pin 6 - Cathode of Unit No. 1  
 Pin 7 - Heater  
 Pin 8 - Heater

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

Values are for Each Unit

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

PLATE VOLTAGE . . . . .	450 max.	volts
CATHODE CURRENT . . . . .	20 max.	ma

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### PLATE DISSIPATION:

Either plate . . . . .	5	max.	watts
Both plates (Both units operating) . . .	7.5	max.	watts

### PEAK HEATER-CATHODE VOLTAGE:

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

### Maximum Circuit Values:

#### Grid-Circuit Resistance:

For fixed-bias operation . . . . .	1	max.	megohm
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### Typical Operation as Resistance-Coupled Amplifier:

See *RESISTANCE-COUPLED AMPLIFIER CHART No. 29*  
at front of this Section

### HORIZONTAL DEFLECTION OSCILLATOR

*Values are for Each Unit*

### Maximum Ratings, Design-Center Values:

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

DC PLATE VOLTAGE . . . . .	450	max.	volts
PEAK NEGATIVE-PULSE GRID VOLTAGE <sup>♣</sup> . . . . .	600	max.	volts
CATHODE CURRENT:			
Peak . . . . .	300	max.	ma
Average . . . . .	20	max.	ma
PLATE DISSIPATION:			
Either plate . . . . .	5	max.	watts
Both plates (Both units operating) . . .	7.5	max.	watts
PEAK HEATER-CATHODE VOLTAGE:			
Heater negative with respect to cathode	200	max.	volts
Heater positive with respect to cathode	200 <sup>▲</sup>	max.	volts

### Maximum Circuit Values:

#### Grid-Circuit Resistance:

For fixed-bias, grid-resistor bias, or cathode-bias operation . . . . .	2.2	max.	megohms
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### VERTICAL DEFLECTION OSCILLATOR

*Values are for Each Unit*

### Maximum Ratings, Design-Center Values:

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

DC PLATE VOLTAGE . . . . .	450	max.	volts
PEAK NEGATIVE-PULSE GRID VOLTAGE <sup>♣</sup> . . . . .	400	max.	volts
CATHODE CURRENT:			
Peak . . . . .	70	max.	ma
Average . . . . .	20	max.	ma

▲, □, ♣, #: See next page.



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## MEDIUM-MU TWIN TRIODE

### PLATE DISSIPATION:

Either plate . . . . .	5	max.	watts
Both plates (Both units operating) . . .	7.5	max.	watts

### PEAK HEATER-CATHODE VOLTAGE:

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

### Maximum Circuit Values:

#### Grid-Circuit Resistance:

For fixed-bias, grid-resistor bias, or cathode-bias operation . . . . .	2.2	max.	megohms
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## VERTICAL DEFLECTION AMPLIFIER

*Values are for Each Unit*

### Maximum Ratings, Design-Center Values Except as Noted:

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

DC PLATE VOLTAGE . . . . .	450	max.	volts
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PEAK POSITIVE-PULSE PLATE VOLTAGE <sup>‡</sup> (Absolute Maximum) . . . . .	1500 <sup>■</sup>	max.	volts
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PEAK NEGATIVE-PULSE GRID VOLTAGE . . . . .	250	max.	volts
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### CATHODE CURRENT:

Peak . . . . .	70	max.	ma
Average . . . . .	20	max.	ma

### PLATE DISSIPATION:

Either plate . . . . .	5	max.	watts
Both plates (Both units operating) . . .	7.5	max.	watts

### PEAK HEATER-CATHODE VOLTAGE:

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

### Maximum Circuit Values:

#### Grid-Circuit Resistance:

For cathode-bias operation . . . . .	2.2	max.	megohms
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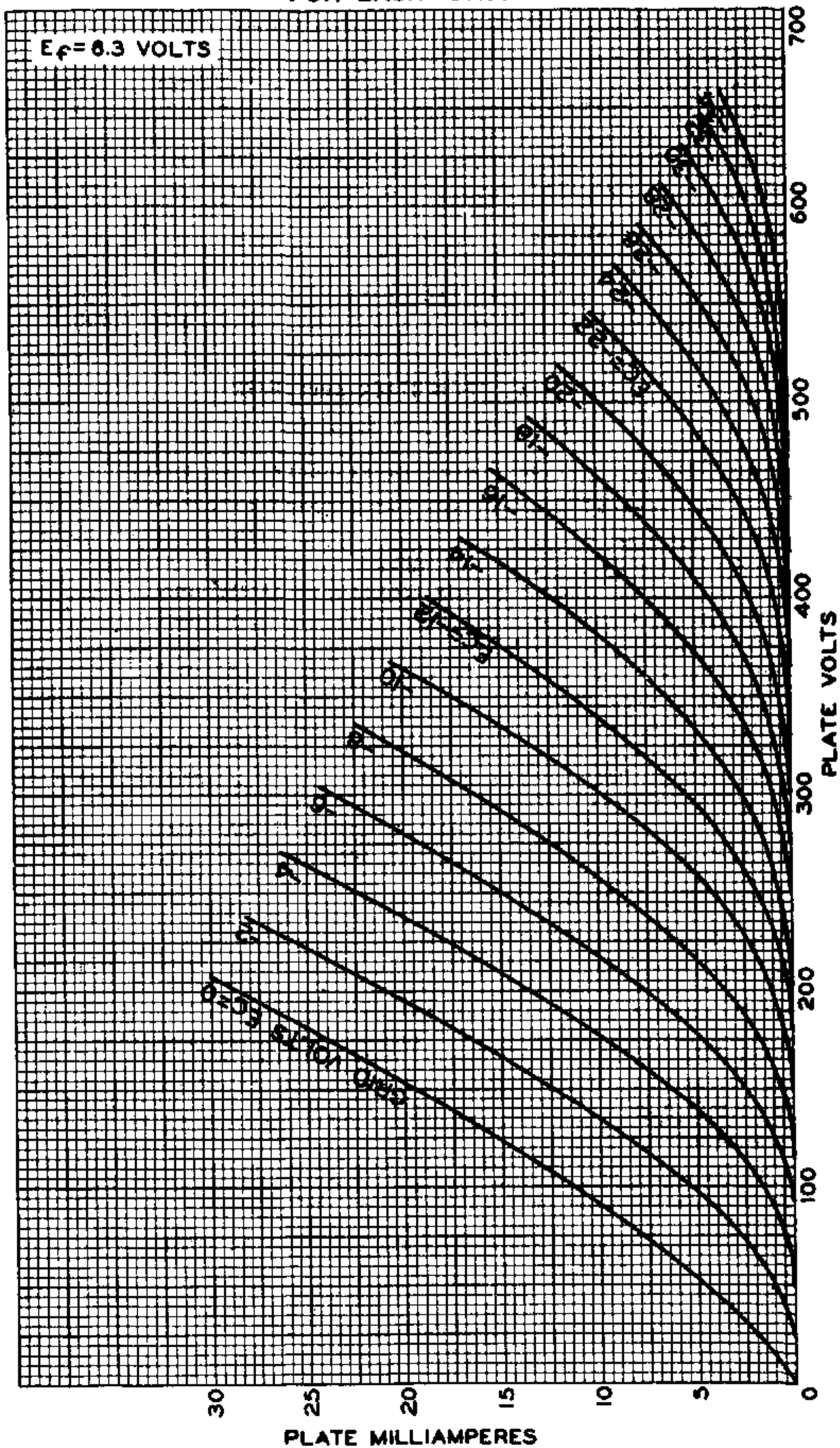
- ▲ The dc component must not exceed 100 volts.
- As described in "Standards of Good Engineering Practice Concerning Television Broadcast Stations", Federal Communications Commission.
- ‡ This rating is applicable where the duration of the voltage pulse does not exceed 15 per cent of one horizontal scanning cycle. In a 525-line, 30-frame system, 15 per cent of one horizontal scanning cycle is 10 microseconds.
- \* This rating is applicable where 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.
- Under no circumstances should this absolute value be exceeded.

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## AVERAGE PLATE CHARACTERISTICS FOR EACH UNIT



APRIL 28, 1954

TUBE DIVISION

92CM-8322

RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY



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## AVERAGE CHARACTERISTICS FOR EACH UNIT

$E_f = 6.3$  VOLTS  
PLATE VOLTS ( $E_b$ ) = 250

