



12AT7

# 12AT7 HIGH-MU TWIN TRIODE

9-PIN MINIATURE TYPE

## GENERAL DATA

### Electrical:

Heater, for Unipotential Cathodes:

Heater Arrangement	Series	Parallel	
Voltage . . . . .	12.6	6.3	ac or dc volts
Current . . . . .	0.15	0.3	amp

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

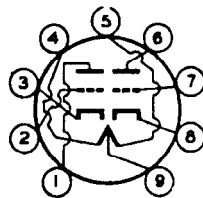
	Unit No. 1	Unit No. 2	
<b>Grid-Drive Operation:</b>			
Grid to Plate . . . . .	1.5	1.5	μf
Grid to Cathode . . . . .	2.2	2.2	μf
Plate to Cathode . . . . .	0.5	0.4	μf
Heater to Cathode . . . . .	2.4	2.4	μf
<b>Cathode-Drive Operation:</b>			
Plate to Cathode . . . . .	0.2	0.2	μf
Grid & Heater to Cathode . . . . .	4.6	4.6	μf
Grid & Heater to Plate . . . . .	1.8	1.8	μf
Grid to Grid . . . . .	0.005 max.		μf
Plate to Plate . . . . .	0.4 max.		μf

<sup>o</sup> with no external shield.

### Mechanical:

Mounting 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"
Maximum Diameter . . . . .	7/8"
Bulb . . . . .	T-6-1/2"
Base . . . . .	Small-Button Noval 9 Pin (JETEC No.E9-1)
Basing Designation for BOTTOM VIEW . . . . .	9A

- Pin 1 - Plate of Unit No.2
- Pin 2 - Grid of Unit No.2
- Pin 3 - Cathode 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 - Heater Center-Tap

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

Values are for each unit

Maximum Ratings, Design-Center Values:

PLATE VOLTAGE . . . . .	300 max.	volts
GRID VOLTAGE:		
Negative Bias Value . . . . .	-50 max.	volts
PLATE DISSIPATION . . . . .	2.5 max.	watts

← Indicates a change

MARCH 1, 1954

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**PEAK HEATER-CATHODE VOLTAGE:**

Heater negative with respect to cathode . .	90 max.	volts
Heater positive with respect to cathode . .	90 max.	volts

**→ Characteristics:**

Plate Supply Voltage . . . . .	100	250	volts
Cathode-Bias Resistor . . . . .	270	200	ohms
Amplification Factor . . . . .	60	60	
Plate Resistance (Approx.) . . . . .	15000	10900	ohms
Transconductance . . . . .	4000	5500	μmhos
Grid Voltage (Approx.)			
for plate current of 10 μamp . .	-5	-12	volts
Plate Current . . . . .	3.7	10	ma

→ Indicates a change

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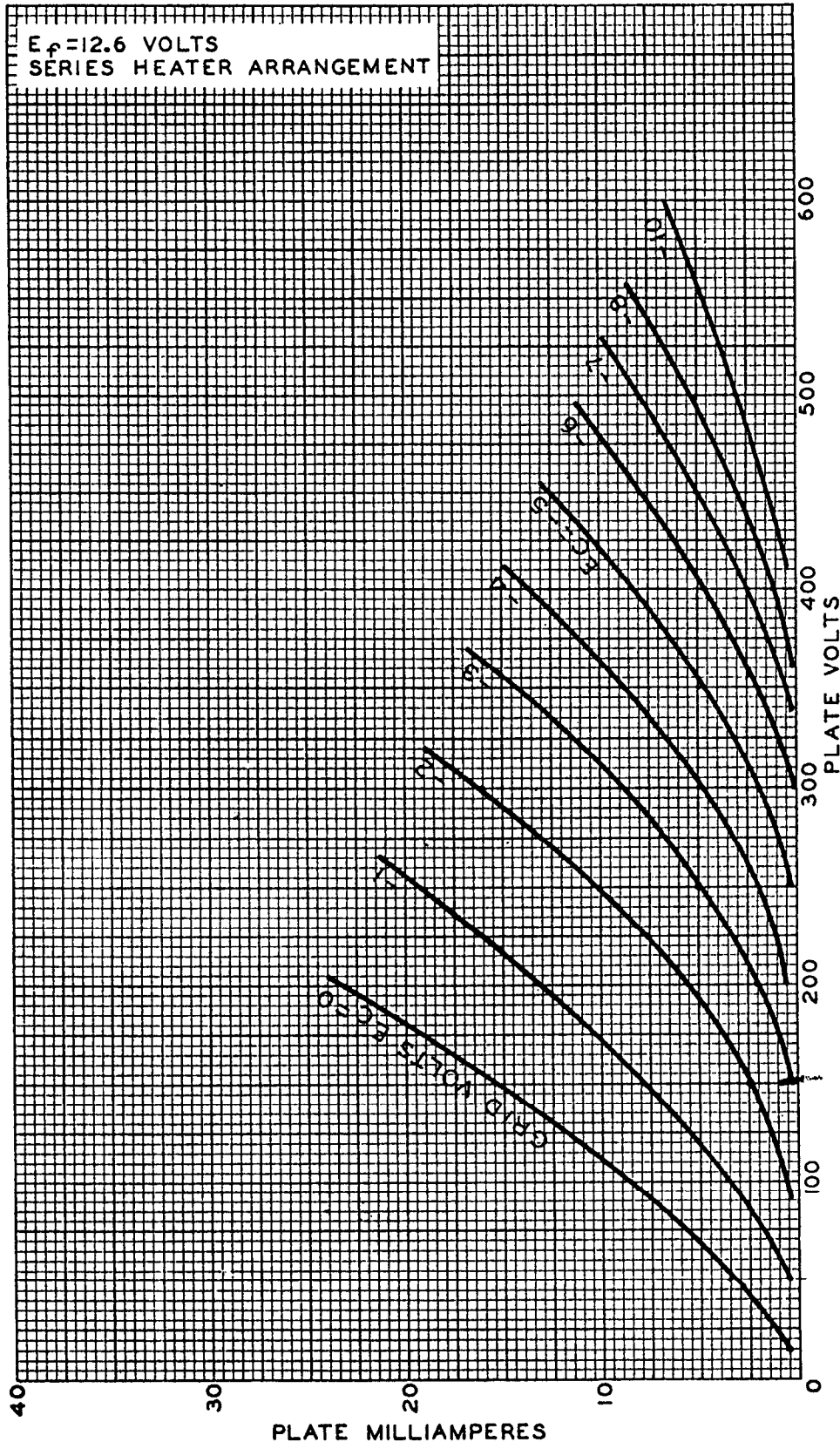
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AVERAGE PLATE CHARACTERISTICS  
EACH UNIT

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AVERAGE CHARACTERISTICS  
EACH UNIT

