

# 20E27

## High-Mu Twin Triode

### 9-PIN MINIATURE TYPE

For High-Gain, Resistance-Coupled, Low-Level Audio-Amplifiers Operating at Low-Signal Levels, such as Preamplifiers for Low-Cost Stereophonic Phonographs

#### GENERAL DATA

##### Electrical:

Heater, for Unipotential Cathodes:

Voltage (AC or DC) . . . . .	20	volts
Current . . . . .	0.1 ± 6%	amp

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

	Unit No. 1	Unit No. 2	
Grid to plate . . . . .	1.5	1.5	μf
Grid to cathode and heater. . .	1.6	1.6	μf
Plate to cathode and heater . .	0.2	0.3	μf

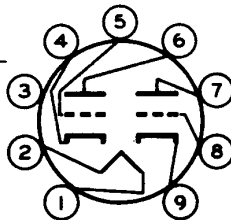
##### Characteristics, Class A<sub>1</sub> Amplifier (Each Unit):

Plate Voltage . . . . .	100	250	volts
Grid Voltage. . . . .	-1	-2	volts
Amplification Factor. . . . .	100	100	
Plate Resistance (Approx.). . . .	80000	62500	ohms
Transconductance. . . . .	1250	1600	μmhos
Plate Current . . . . .	0.5	1.2	ma

##### Mechanical:

Operating 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"  
 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)  
 Basing Designation for BOTTOM VIEW. . . . . 9PG ←

Pin 1 - Heater	Pin 6 - Plate of Unit No. 2
Pin 2 - Heater	Pin 7 - Plate of Unit No. 1
Pin 3 - Internal Connection—Do Not Use	Pin 8 - Grid of Unit No. 1
Pin 4 - Cathode of Unit No. 2	Pin 9 - Cathode of Unit No. 1
Pin 5 - Grid of Unit No. 2	



#### AMPLIFIER — Class A<sub>1</sub>

Values are for Each Unit

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

PLATE VOLTAGE. . . . . 330 max. volts

← Indicates a change.



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DATA 1  
 5-61

# 20EZ7

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**GRID VOLTAGE:**

Negative-bias value. . . . . 55 max. volts  
Positive-bias value. . . . . 0 max. volts  
PLATE DISSIPATION. . . . . 1.2 max. watts

**PEAK HEATER-CATHODE VOLTAGE:**

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

**Typical Operation as Resistance-Coupled Amplifier:**

See *RESISTANCE-COUPLED-AMPLIFIER CHART No. 25*  
at front of this Section

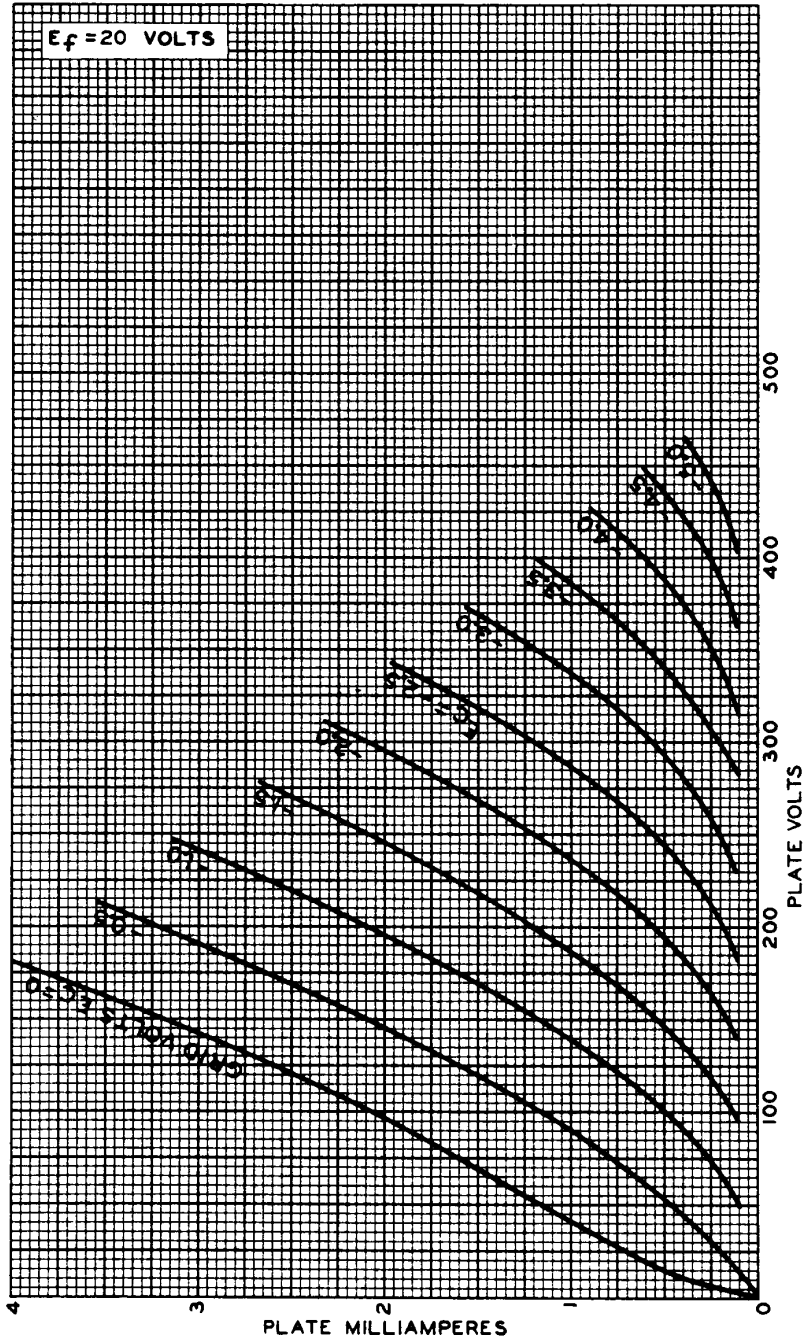
<sup>a</sup> Without external shield.

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



# 20E7

## AVERAGE PLATE CHARACTERISTICS Each Unit



92CM-10804

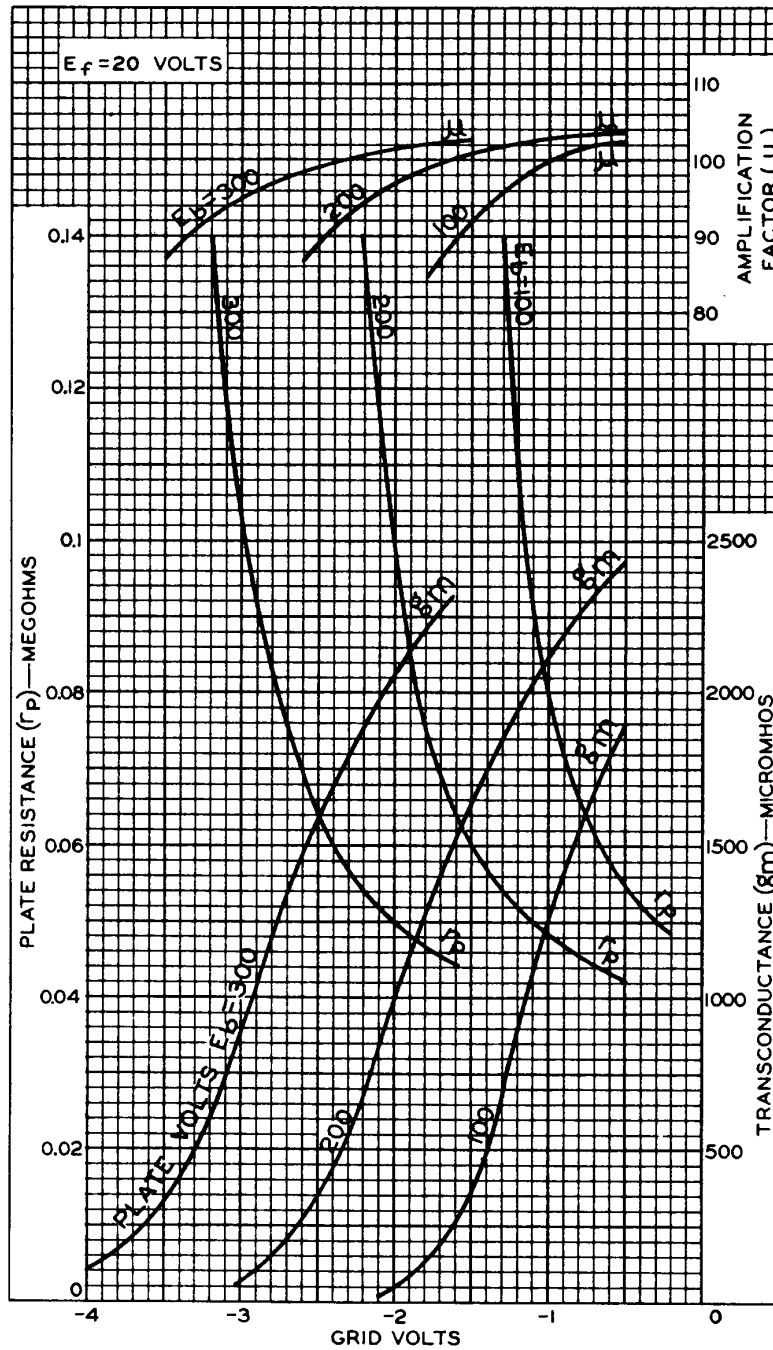


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DATA 2  
10-60

# 20E27

## AVERAGE CHARACTERISTICS Each Unit



92CM-10805

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