

# 6FQ7

## Medium-Mu Twin Triode

9-PIN MINIATURE TYPE

With Heater Having Controlled Warm-Up Time

### GENERAL DATA

#### Electrical:

Heater, for Unipotential Cathodes:

Voltage (AC or DC) . . . . .	6.3	volts
Current . . . . .	0.6 ± 6%	amp
Warm-up time (Average) . . . . .	11	sec

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

	Unit No.1	Unit No.2	
Grid to plate . . . . .	3.6	3.8	μμf
Grid to cathode and heater. . . . .	2.4	2.4	μμf
Plate to cathode and heater . . . . .	0.34	0.26	μμf
Plate of unit No.1 to plate of unit No.2. . . . .		1	μμf

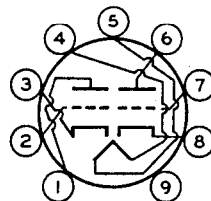
#### Characteristics, Class A<sub>1</sub> Amplifier (Each Unit):

Plate Voltage . . . . .	90	250	volts
Grid Voltage. . . . .	0	-8	volts
Amplification Factor. . . . .	20	20	
Plate Resistance (Approx.). . . . .	6700	7700	ohms
Transconductance. . . . .	3000	2600	μmhos
Plate Current . . . . .	10	9	ma
Plate Current for grid volts = -12.5. . . . .	-	1.3	ma
Grid Voltage (Approx.) for plate μa = 10 . . . . .	-7	-18	volts

#### Mechanical:

Operating Position. . . . .	Any
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 <i>General Section</i>
Bulb. . . . .	T6-1/2
Base. . . . .	Small-Button Noval 9-Pin (JEDEC No.E9-1)
Basing Designation for BOTTOM VIEW. . . . .	9LP

- 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 - No Connection

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## AMPLIFIER — Class A<sub>1</sub>

Values are for Each Unit

### Maximum Ratings, Design-Maximum Values:

PLATE VOLTAGE . . . . .	330	max.	volts
GRID VOLTAGE:			
Positive-bias value . . . . .	0	max.	volts
CATHODE CURRENT . . . . .	22	max.	ma
PLATE DISSIPATION:			
Either plate . . . . .	4	max.	watts
Both plates (Both units operating) . . .	5.7	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. 29*  
at front of this Section

### Maximum Circuit Values:

Grid-Circuit Resistance:			
For fixed-bias operation . . . . .	1	max.	megohm

## HORIZONTAL-DEFLECTION OSCILLATOR

Values are for Each Unit

### Maximum Ratings, Design-Maximum Values:

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

DC PLATE VOLTAGE . . . . .	330	max.	volts
PEAK NEGATIVE-PULSE GRID VOLTAGE . . . . .	660	max.	volts
CATHODE CURRENT:			
Peak . . . . .	330	max.	ma
Average . . . . .	22	max.	ma
PLATE DISSIPATION:			
Either plate . . . . .	4	max.	watts
Both plates (Both units operating) . . .	5.7	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

### Maximum Circuit Values:

Grid-Circuit Resistance . . . . .	2.2	max.	megohms
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## VERTICAL-DEFLECTION OSCILLATOR

Values are for Each Unit

### Maximum Ratings, Design-Maximum Values:

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

DC PLATE VOLTAGE . . . . .	330	max.	volts
PEAK NEGATIVE-PULSE GRID VOLTAGE . . . . .	440	max.	volts
CATHODE CURRENT:			
Peak . . . . .	77	max.	ma
Average . . . . .	22	max.	ma

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**PLATE DISSIPATION:**

Either plate. . . . . 4 max. watts  
Both plates (Both units operating). . . 5.7 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

**Maximum Circuit Values:**

Grid-Circuit Resistance . . . . . 2.2 max. megohms

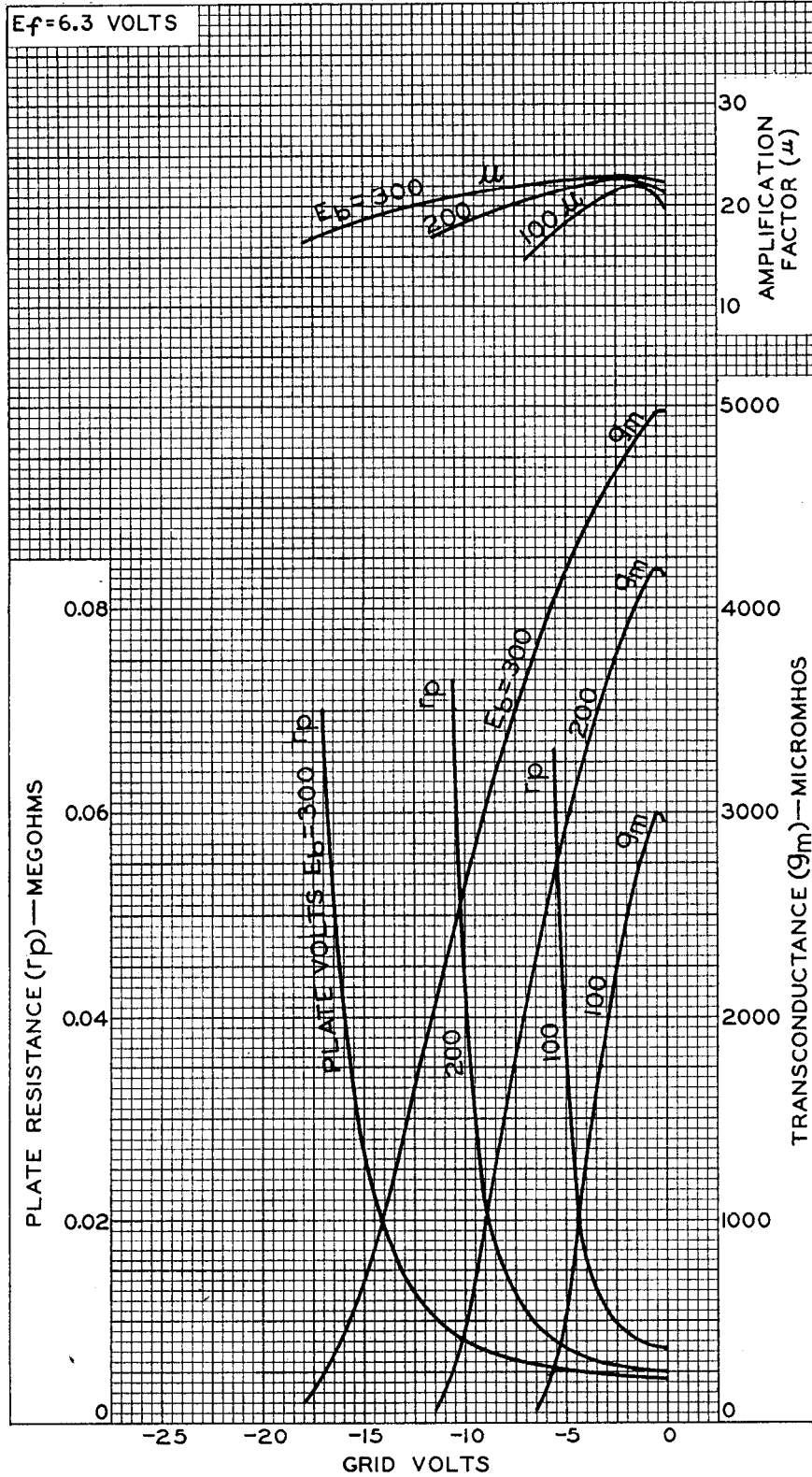
<sup>a</sup> Without external shield.

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

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

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## AVERAGE CHARACTERISTICS Each Unit



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## AVERAGE PLATE CHARACTERISTICS Each Unit

