



6J7
6J7-G
6J7-GT

6J7, 6J7-G, 6J7-GT SHARP-CUTOFF PENTODE

GENERAL DATA

Electrical:

Heater, for Unipotential Cathode:

Voltage	6.3	ac or dc volts
Current	0.3	amp

Direct Interelectrode Capacitances:

	6J7 [▲]	6J7-G	6J7-GT	
Pentode Connection:				
Grid No. 1 to Plate	0.005 max.	0.007 max. ●	0.005 max. ●	μuf
Input	7	4.6 ●	4.6 ●	μuf
Output	12	12 ●	12 ●	μuf
Triode Connection:*				
Grid No. 1 to Plate	2	1.8 □	1.8 □	μuf
Grid No. 1 to Cath.	5	2.6 □	2.6 □	μuf
Plate to Cathode.	14	17 □	17 □	μuf

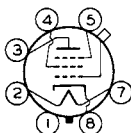
Mechanical:

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Mounting Position . .	Any	Any	Any
Max. Overall Length .	3-1/8"	4-15/32"	3-5/16"
Seated Length . . .	2-7/16" ± 1/8"	3-3/4" ± 5/32"	{ 2-5/16" to 2-3/4" }
Maximum Diameter. . .	1-5/16"	1-9/16"	1-5/16"
Bulb	{ Metal Shell MT8A }	ST-12	T-9
Cap	Miniature	{ Skirted Miniature }	{ Skirted Miniature }
Base	{ Small-Wafer Octal 7-Pin }	{ Small-Shell Octal 7-Pin }	{ Small-Wafer Octal 7-Pin, Sleeve }
Basing Designation	7R	G-7R	GT-7R

BOTTOM VIEW

Pin 1 { 6J7-Shell
6J7-G-Internal
Shield
6J7-GT-Base
Sleeve

Pin 2-Heater
Pin 3-Plate



Pin 4-Grid No. 2
Pin 5-Grid No. 3
Pin 7-Heater
Pin 8-Cathode

Cap - Grid No. 1

AMPLIFIER - Class A₁

Maximum Ratings, Design-Center Values:

PLATE VOLTAGE	300 max.	volts
GRID-No. 2 (SCREEN) VOLTAGE	125 max.	volts
GRID-No. 2 SUPPLY VOLTAGE	300 max.	volts
PLATE DISSIPATION	0.75 max.	watt
GRID-No. 2 DISSIPATION	0.1 max.	watt

(continued on next page)

▲ With shell connected to cathode. □ Without external shield.
● With external shield connected to cathode.
* With grid No. 2 and grid No. 3 connected to plate.



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GRID-No.1 (CONTROL-GRID) VOLTAGE:

Positive bias value. 0 max. volts

PEAK HEATER-CATHODE VOLTAGE:

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

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

Typical Operation and Characteristics:

Plate Voltage. 100 250 . . volts

Grid No.3 (Suppressor) . Connected to cathode at socket

Grid-No.2 Voltage. 100 100 . . volts

Grid-No.1 Voltage. -3 -3 . . volts

Plate Resistance (Approx.) 1 # . . megohm

Transconductance 1185 1225 . . μ hos

Grid-No.1 Bias (Approx.) for
cathode-current cutoff. . . -7 -7 . . volts

Plate Current. 2 2 . . ma

Grid-No.2 Current. 0.5 0.5 . . ma

Maximum Circuit Values:

Grid-No.1-Circuit Resistance 1 max. megohm

AMPLIFIER - Class A₁

Triode Connection - Grids No.2 & No.3 Connected to Plate

Maximum Ratings, Design-Center Values:

PLATE VOLTAGE. 250 max. volts

PLATE DISSIPATION (Total). 1.75 max. watts

GRID-No.1 VOLTAGE:

Positive bias value. 0 max. volts

PEAK HEATER-CATHODE VOLTAGE:

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

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

Typical Operation and Characteristics:

Plate Voltage. 180 250 . . volts

Grid-No.1 Voltage. -5.3 -8 . . volts

Amplification Factor 20 20

Plate Resistance (Approx.) 11000 10500 . . ohms

Transconductance 1800 1900 . . μ hos

Plate Current. 5.3 6.5 . . ma

Maximum Circuit Values:

Grid-No.1-Circuit Resistance 1 max. megohm

BIASED DETECTOR

Typical Operation:

Plate-Supply Voltage \diamond . . . 100 100 250 250 volts

Grid No.3. Connected to cathode at socket

Grid-No.2 Voltage. 12 30 50 100 volts

RF Grid-No.1 Volts (RMS)* 1.05 1.6 1.18 1.37 volts

#, \diamond , *: See next page.



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Cathode-Bias Resistor.	18000	10000	3000	10000	ohms
Zero-Sig. Cathode Cur.	0.063	0.183	0.65	0.43	ma
Plate Resistor	1.0	0.25	0.25	0.5	megohm
Blocking Capacitor . .	0.01	0.01	0.3	0.3	μ f
Grid Resistor [Ⓢ]	1.0	0.5	0.25	0.25	megohm

Maximum Circuit Values:

Grid-No.1-Circuit Resistance 1 max. megohm

[#] Greater than 1 megohm.

[♦] Voltage at plate will be "Plate-Supply" voltage minus voltage drop in plate resistor caused by plate current.

^{*} With these signal values modulated 20%, the voltage output under each set of conditions is 17 peak volts at the grid of the following amplifier. This value is sufficient to insure full audio output from a 6F6 (class A pentode) at 250 volts on plate.

[Ⓢ] For the following amplifier tube.

For additional data, see RESISTANCE-COUPLED AMPLIFIER CHARTS at the front of this Section.

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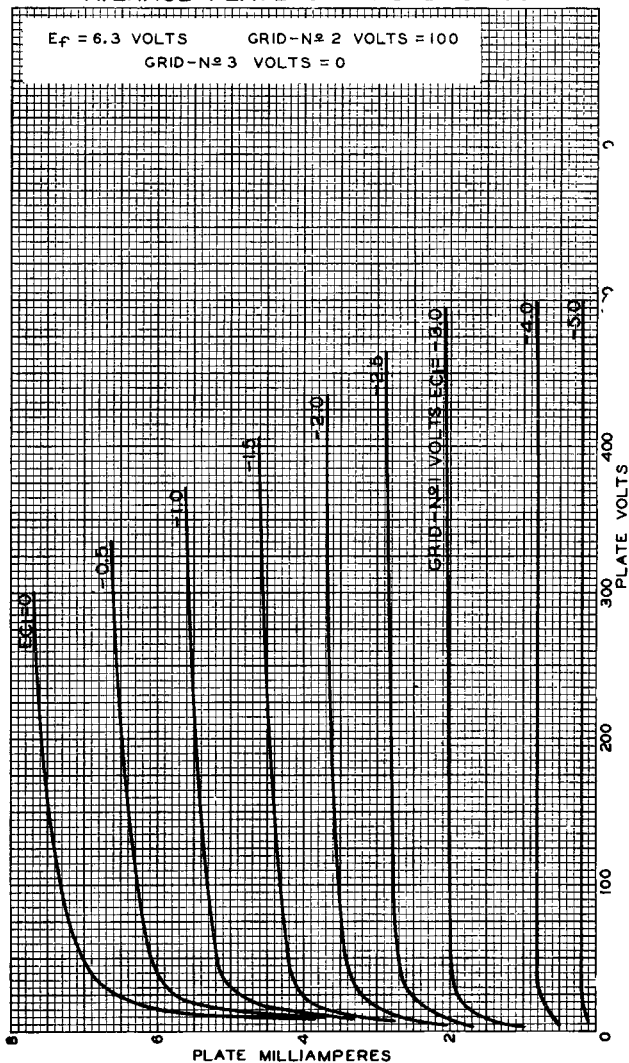
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AVERAGE PLATE CHARACTERISTICS

 $E_f = 6.3$ VOLTS

GRID-№ 2 VOLTS = 100

GRID-№ 3 VOLTS = 0



MAY 12, 1948

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92CM-4741R2

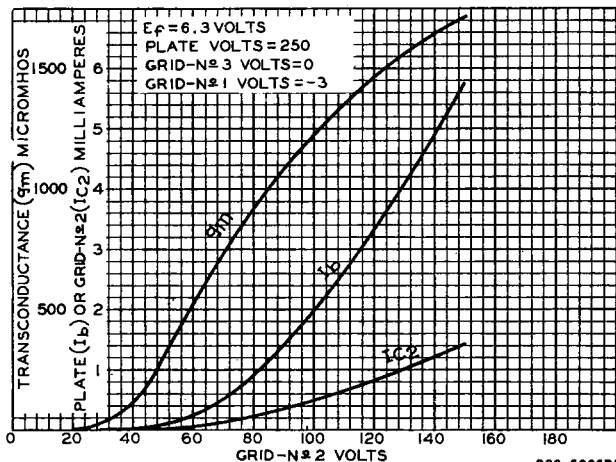
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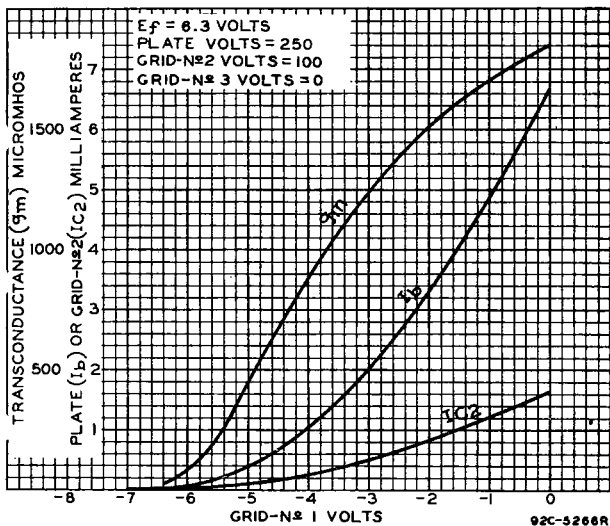
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AVERAGE CHARACTERISTICS



AVERAGE CHARACTERISTICS



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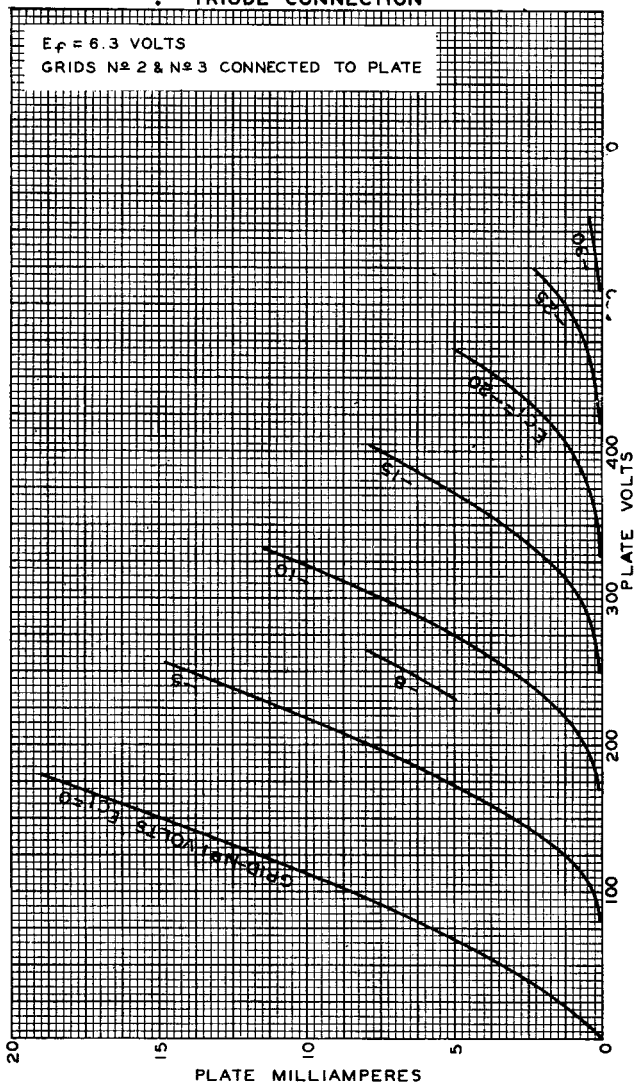
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AVERAGE PLATE CHARACTERISTICS TRIODE CONNECTION



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92CM-4842RI