



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

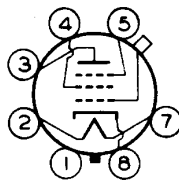
Mechanical:

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 } MTTBA	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 mhos
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 mhos
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 ϕ	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

#, ϕ , *: 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.

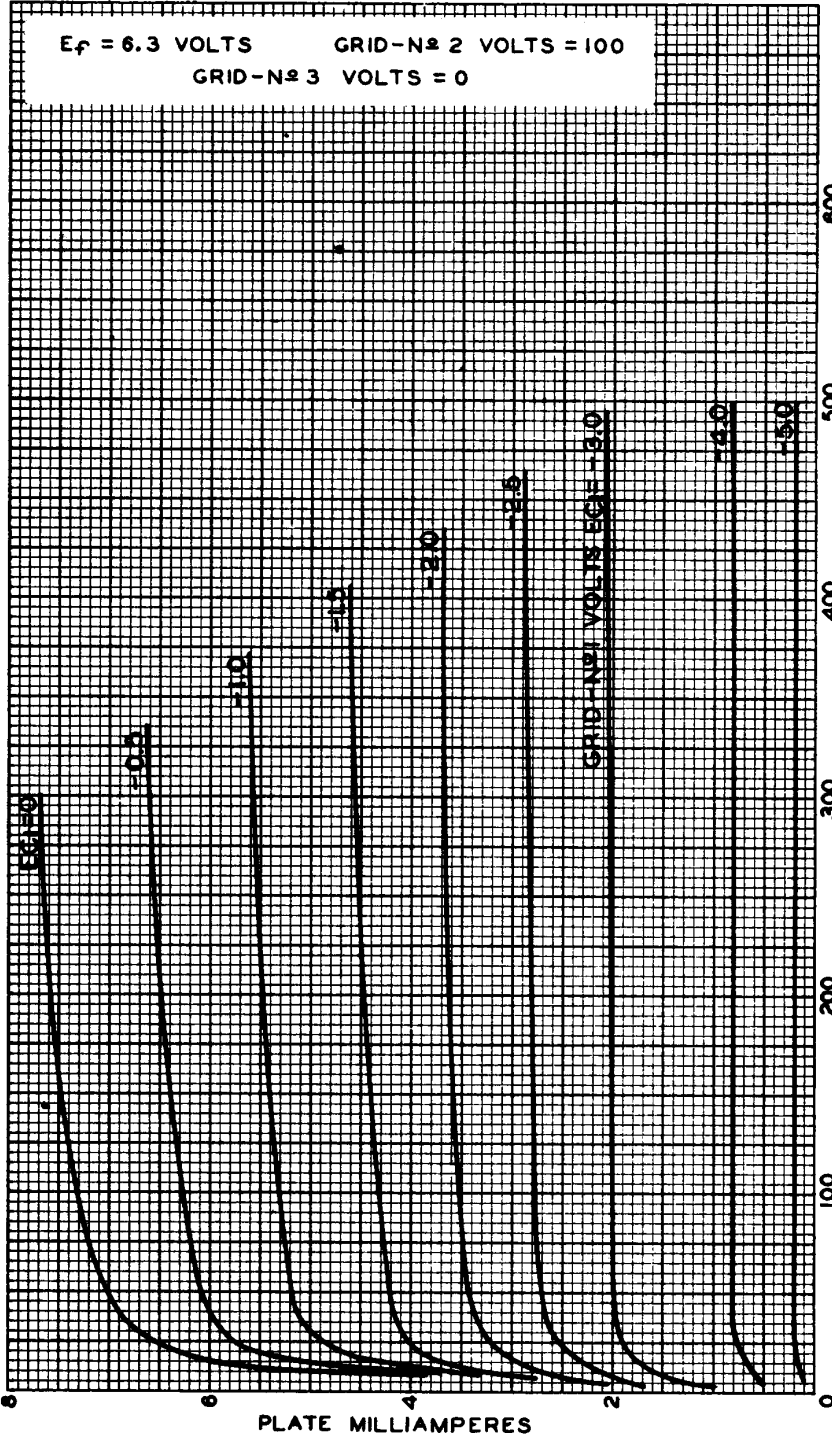
For additional data, see RESISTANCE-COUPLED AMPLIFIER CHARTS at the front of this Section.

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AVERAGE PLATE CHARACTERISTICS



MAY 12, 1948

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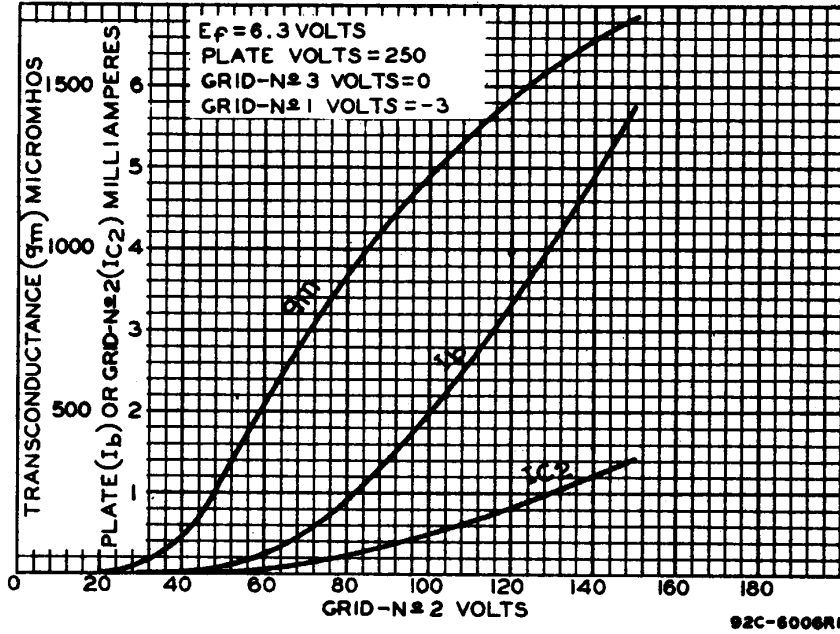
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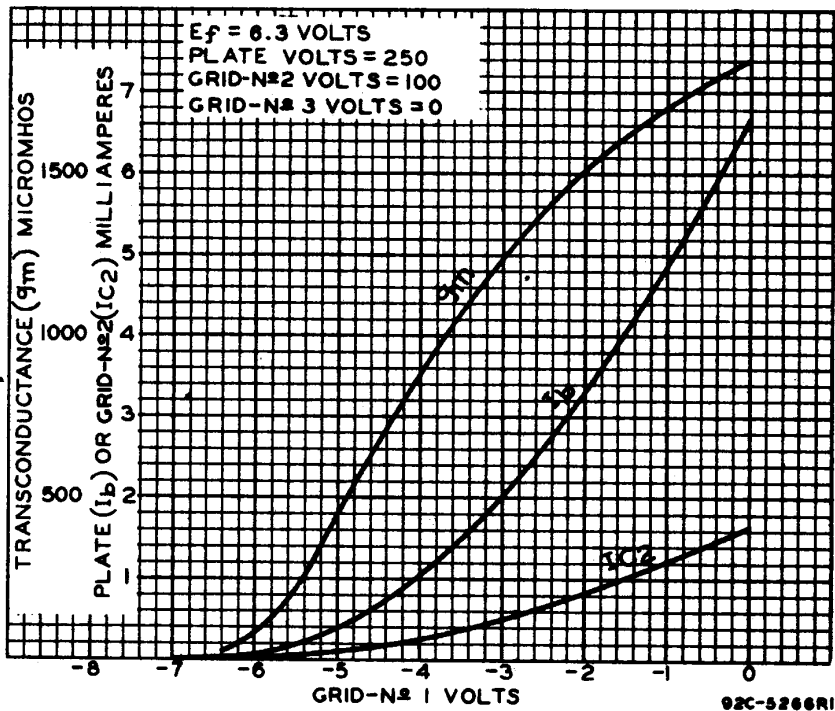
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AVERAGE CHARACTERISTICS



AVERAGE CHARACTERISTICS



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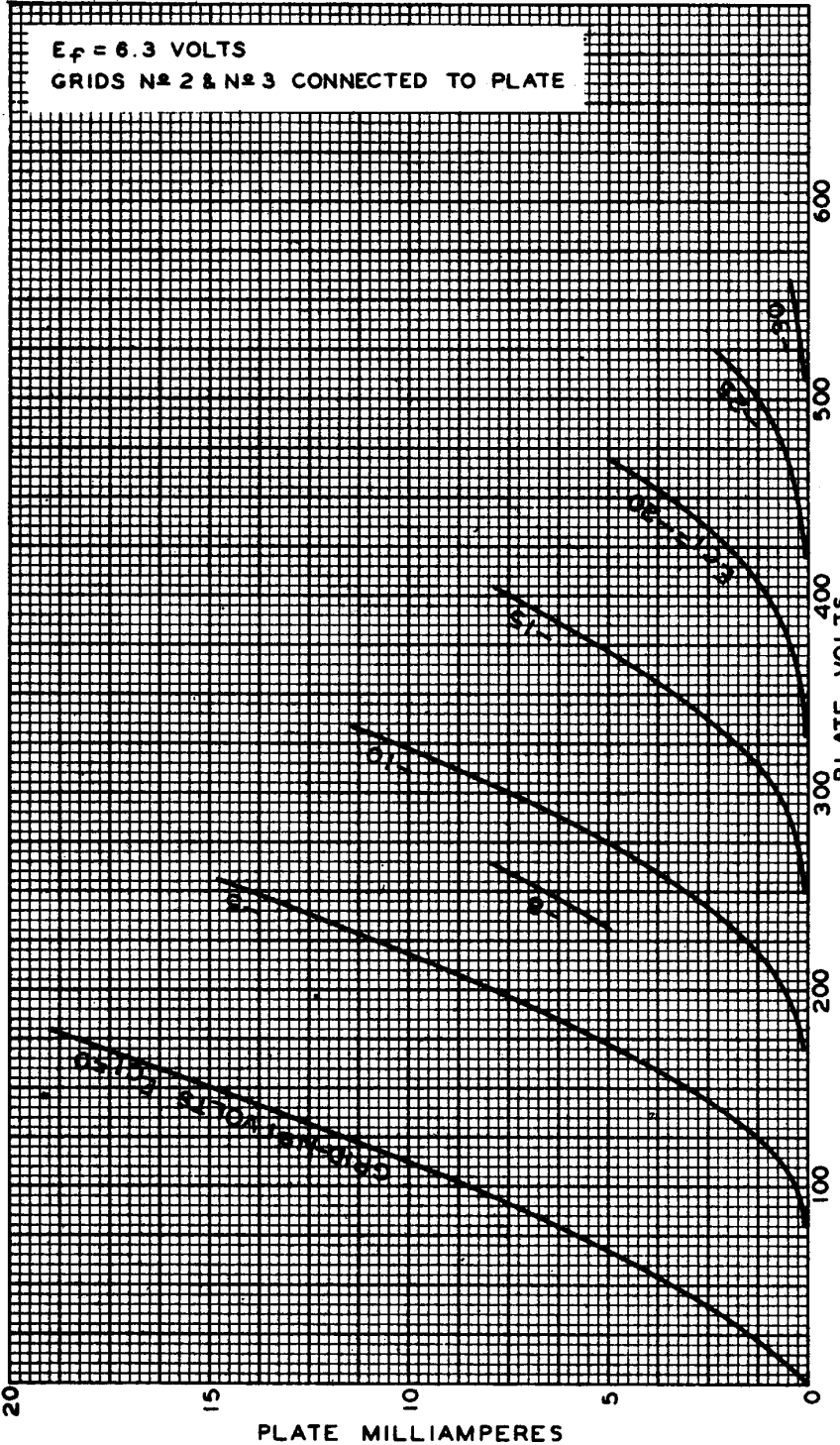
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AVERAGE PLATE CHARACTERISTICS TRIODE CONNECTION



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92CM-4842RI