



6 SJ7, 6SJ7-GT SHARP-CUTOFF PENTODE

6SJ7
6SJ7-GT

GENERAL DATA

Electrical:

Heater, for Unipotential Cathode:

Voltage. 6.3 ac or dc volts

Current. 0.3 amp

Direct Interelectrode Capacitances:

Pentode Connection:	6SJ7 ^o	6SJ7-GT ^{oo}	
Grid No.1 to Plate	0.005 max.	0.005 max.	μf ←
Input.	6	7	μf ←
Output	7	7	μf ←
Triode Connection:*			
Grid No.1 to Plate	2.8	2.8	μf
Grid No.1 to Cathode.	3.4	3.4	μf
Plate to Cathode	11	11	μf

^o With shell connected to cathode.

^{oo} With external shield connected to cathode.

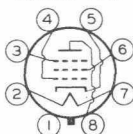
* With grid No.2 and grid No.3 connected to plate.

Mechanical:

Mounting Position.	Any	Any
Maximum Overall Length	2-5/8"	3-5/16"
Maximum Seated Length.	2-1/16"	2-3/4"
Maximum Diameter	1-5/16"	1-5/16"
Bulb	Metal Shell, MT8G	T-9
Base	{ Small-Wafer Octal 8-Pin	Sm.-Wafer Octal 8-Pin, Sleeve
Basing Designation	8N	GT-8N

BOTTOM VIEW

Pin 1 { 6SJ7, Shell
6SJ7-GT,
Base Sleeve
Pin 2-Heater
Pin 3-Grid No.3



Pin 4-Grid No.1
Pin 5-Cathode
Pin 6-Grid No.2
Pin 7-Heater
Pin 8-Plate

AMPLIFIER-Class A₁

Pentode Connection

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.	2.5 max.	watts
GRID-No.2 DISSIPATION.	0.7 max.	watt ←
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

← Indicates a change.

JUNE 15, 1948

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DATA

6SJ7
6SJ7-GT



6SJ7, 6SJ7-GT SHARP-CUTOFF PENTODE

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.)	0.7	#	..	megohm
Transconductance	1575	1650	..	μ hos
Grid-No.1 Bias (Approx.) for plate current of 10 μ amp	-8	-8	..	volts
Plate Current.	2.9	3.0	..	ma
Grid-No.2 Current.	0.9	0.8	..	ma

Maximum Circuit Values:

Grid-No.1-Circuit Resistance	1 max. megohm
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AMPLIFIER - Class A₁

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

Maximum Ratings, Design-Center Values:

PLATE VOLTAGE.	250 max.	volts
PLATE DISSIPATION (Total).	2.5 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.	-6	-8.5	..	volts
Amplification Factor	19	19		
Plate Resistance (Approx.)	8250	7600	..	ohms
Transconductance	2300	2500	..	μ hos
Plate Current.	6.0	9.2	..	ma

Maximum Circuit Values:

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

*For additional data, see RESISTANCE-COUPLED AMPLIFIER CHART
at the front of this Section*

→ Indicates a change.

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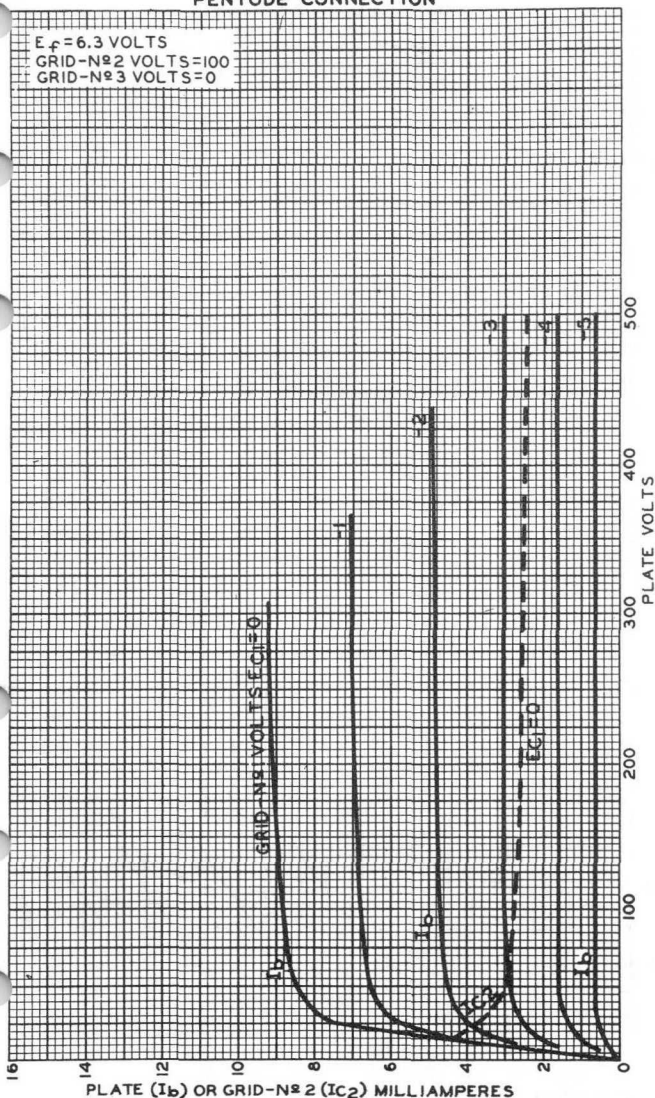
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AVERAGE PLATE CHARACTERISTICS
PENTODE CONNECTION

OCT. 16, 1947

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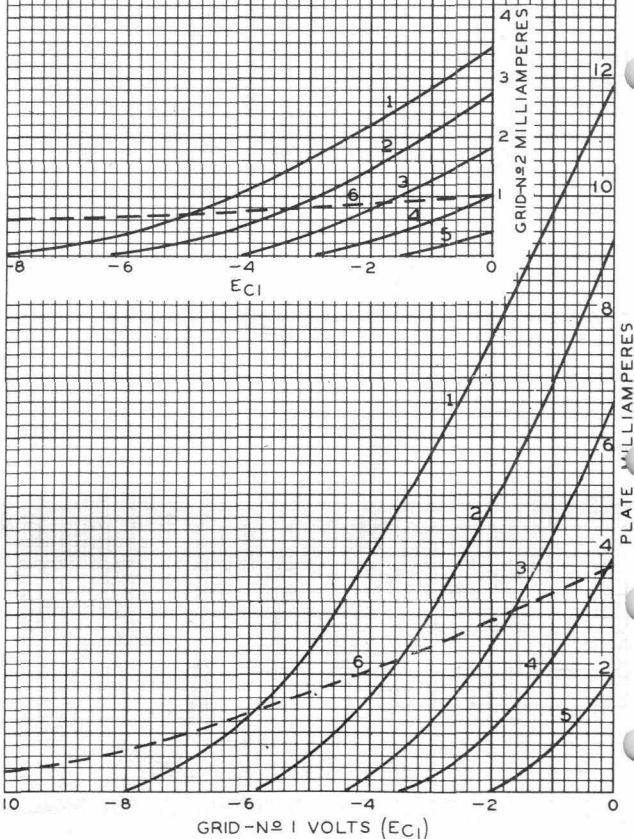
AVERAGE CHARACTERISTICS PENTODE CONNECTION

 $E_f = 6.3$ VOLTS

PLATE VOLTS = 300

GRID-Nº 3 VOLTS = 0

CURVE	GRID-Nº 2 SUPPLY VOLTS	SERIES GRID-Nº 2 RESISTOR-OHMS
1	125	—
2	100	—
3	75	—
4	50	—
5	25	—
6	300	250000



MARCH 5, 1948

TUBE DEPARTMENT

92CM-6443R1

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6SJ7

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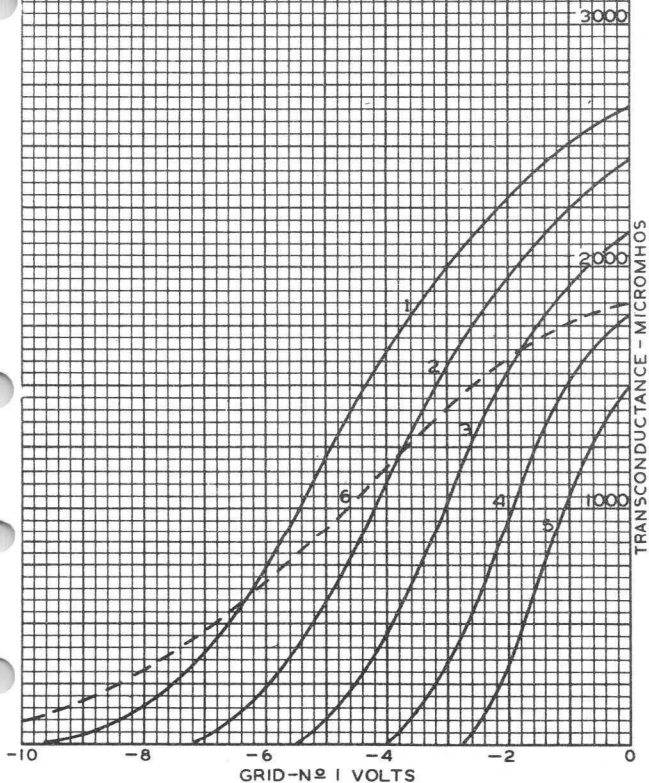
AVERAGE CHARACTERISTICS PENTODE CONNECTION

$E_f = 6.3$ VOLTS

PLATE VOLTS = 300

GRID - N^o 3 VOLTS = 0

CURVE	GRID-N ^o 2-SUPPLY VOLTS	SERIES GRID-N ^o 2 RESISTOR-OHMS
1	125	—
2	100	—
3	75	—
4	50	—
5	25	—
6	300	250000



MARCH 5, 1948

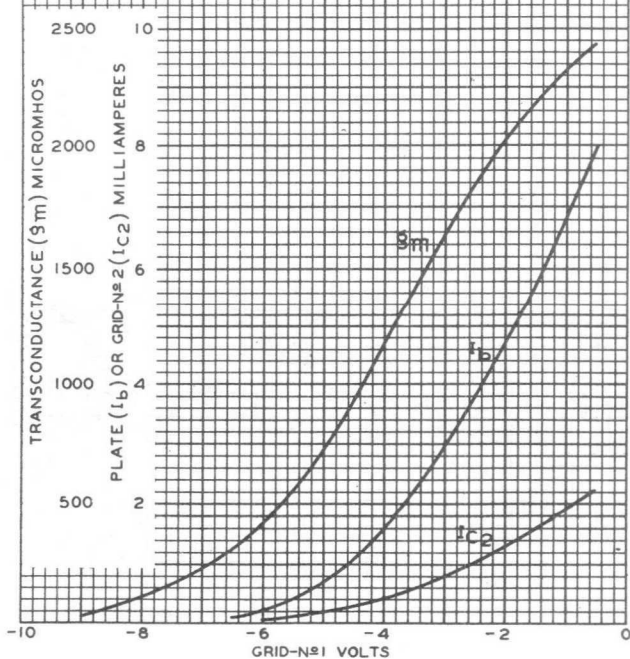
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6SJ7



6SJ7

AVERAGE CHARACTERISTICS
PENTODE CONNECTION $E_f = 6.3$ VOLTS
GRID-N $\approx$ 3 VOLTS=0PLATE VOLTS = 250
GRID-N $\approx$ 2 VOLTS = 100

MARCH 5, 1948

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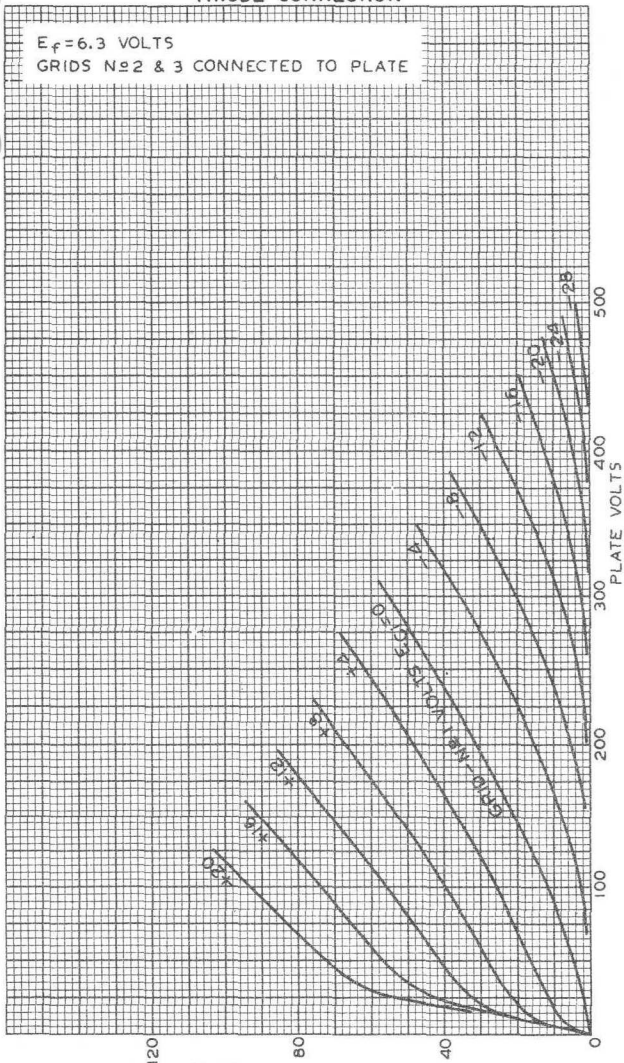
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6SJ7

6SJ7

AVERAGE PLATE CHARACTERISTICS TRIODE CONNECTION



MAY 12, 1948

PLATE MILLIAMPERES
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92CM-6409R1

