Within ratings, same as 6L6, 6L6-G, 6L6GA, 6L6-GB, 7581, 5881, 1614, 5932, 7027A (7027A has extra base connections)

6L6-GC

Beam Power Tube

GENERAL DATA

Electrical:

Heater, for Unipotential Cathode:		
Voltage (AC or DC)	6.3 ± 10%	volts
Current at 6.3 volts	0.9	amp
Direct Interelectrode Capacitances (Approx.):▲		
Grid-No.1 to plate	0.6	μμf
Grid-No.1 to cathode & grid No.3, grid No.2, and heater	10	μμf
Plate to cathode & grid No.3, grid No.2, and heater	6.5	μμf

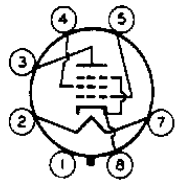
Characteristics, Class A_1 Amplifier:

Plate Voltage	250	volts
Grid-No.2 Voltage	250	volts
Grid-No.1 Voltage	-14	volts
Plate Resistance (Approx.)	22500	ohms
Transconductance	6000	μmhos
Plate Current	72	ma
Grid-No.2 Current	5	ma

Mechanical:

Operating Position	Any
Maximum Overall Length	4-1/4"
Maximum Seated Length	3-11/16"
Diameter	1.438" to 1.562"
Bulb	T-12
Base	Medium-Shell Octal 7-Pin (JEDEC Group 1, No.B7-12), Short Medium-Shell Octal 7-Pin with External Barriers Style A (JEDEC Group 1, No.B7-111) or Style B (JEDEC Group 1, No.B7-119), or Short Medium-Shell Octal 6-Pin with External Barriers Style A (JEDEC Group 1, No.B6-148) or Style B (JEDEC Group 1, No.B6-122)
Basing Designation for BOTTOM VIEW	7AC

Pin 1● - No Connection
Pin 2 - Heater
Pin 3 - Plate
Pin 4 - Grid No.2



Pin 5 - Grid No.1
Pin 7 - Heater
Pin 8 - Cathode, Grid No.3

AF POWER AMPLIFIER — Class A_1

Maximum Ratings, *Design-Maximum Values:*

PLATE VOLTAGE	500	max.	volts
GRID-No.2 (SCREEN-GRID) VOLTAGE	450	max.	volts
GRID-No.2 INPUT	5	max.	watts
PLATE DISSIPATION	30	max.	watts

6L6-GC

PEAK HEATER–CATHODE VOLTAGE:

Heater negative with respect to cathode. .	200 max.	volts
Heater positive with respect to cathode. .	200* max.	volts

Typical Operation and Characteristics:

Fixed-Bias Operation

Plate Voltage.	200	250	300	350	volts
Grid–No.2 Voltage.	200	250	200	250	volts
Grid–No.1 (Control–Grid) Voltage.	–11.5	–14	–12.5	–18	volts
Peak AF Grid–No.1 Voltage.	11.5	14	12.5	18	volts
Zero–Signal Plate Current.	52	72	48	54	ma
Max.–Signal Plate Current.	57	79	55	66	ma
Zero–Signal Grid–No.2 Current.	3.5	5	2.5	2.5	ma
Max.–Signal Grid–No.2 Current.	5.7	7.3	4.7	7	ma
Plate Resistance (Approx.).	35000	22500	35000	33000	ohms
Transconductance	5300	6000	5300	5200	μmhos
Load Resistance.	3000	2500	4500	4200	ohms
Total Harmonic Distortion.	9	10	11	15	%
Max.–Signal Power Output .	4	6.5	6.5	10.8	watts

Cathode-Bias Operation

Plate Supply Voltage	200	250	300	volts
Grid–No.2 Supply Voltage	200	250	200	volts
Cathode Resistor	186	167	218	ohms
Peak AF Grid–No.1 Voltage.	11.5	14	12.7	volts
Zero–Signal Plate Current.	55	75	51	ma
Max.–Signal Plate Current.	56	78	54.5	ma
Zero–Signal Grid–No.2 Current. . . .	4.2	5.4	3	ma
Max.–Signal Grid–No.2 Current. . . .	5.6	7.2	4.6	ma
Load Resistance.	3000	2500	4500	ohms
Total Harmonic Distortion.	9	10	11	%
Max.–Signal Power Output	4	6.5	6.5	watts

Maximum Circuit Values:

Grid–No.1–Circuit Resistance:

For fixed–bias operation	0.1 max.	megohm
For cathode–bias operation	0.5 max.	megohm

AF POWER AMPLIFIER — Class A_1

Triode Connection — Grid No.2 Connected to Plate

Maximum Ratings, *Design-Maximum Values:*

PLATE VOLTAGE.	450 max.	volts
PLATE DISSIPATION.	30 max.	watts
PEAK HEATER–CATHODE VOLTAGE:		
Heater negative with respect to cathode. .	200 max.	volts
Heater positive with respect to cathode. .	200* max.	volts

Typical Operation and Characteristics:

	Fixed Bias	*Cathode Bias*	
Plate Supply Voltage	250	250	volts
Grid-No.1 (Control-Grid) Voltage	-20	-	volts
Cathode Resistor	-	490	ohms
Peak AF Grid-No.1 Voltage	20	20	volts
Zero-Signal Plate Current	40	40	ma
Maximum-Signal Plate Current	44	42	ma
Plate Resistance (Approx.)	1700	-	ohms
Amplification Factor	8	-	
Transconductance	4700	-	μmhos
Load Resistance	5000	6000	ohms
Total Harmonic Distortion	5	6	%
Maximum-Signal Power Output	1.4	1.3	watts

Maximum Circuit Values:

Grid-No.1-Circuit Resistance:		
For fixed-bias operation	0.1 max.	megohm
For cathode-bias operation	0.5 max.	megohm

PUSH-PULL AF POWER AMPLIFIER — Class A_1

Maximum Ratings, *Design-Maximum Values:*

PLATE VOLTAGE	500	max.	volts
GRID-No.2 (SCREEN-GRID) VOLTAGE	450♦	max.	volts
GRID-No.2 INPUT	5	max.	watts
PLATE DISSIPATION	30	max.	watts
PEAK HEATER-CATHODE VOLTAGE:			
Heater negative with respect to cathode	200	max.	volts
Heater positive with respect to cathode	200★	max.	volts

Typical Operation and Characteristics:

Unless otherwise specified, values are for 2 tubes

	Fixed Bias		*Cathode Bias*		
Plate Supply Voltage	250	270	250	270	volts
Grid-No.2 Supply Voltage	250	270	250	270	volts
Grid-No.1 Voltage	-16	-17.5	-	-	volts
Cathode Resistor	-	-	124	124	ohms
Peak AF Grid-No.1-to-Grid-No.1 Voltage	32	35	35.6	28.2	volts
Zero-Signal Plate Current	120	134	120	134	ma
Max.-Signal Plate Current	140	155	130	145	ma
Zero-Signal Grid-No.2 Current	10	11	10	11	ma
Max.-Signal Grid-No.2 Current	16	17	15	17	ma
Plate Resistance (Approx., per tube)	24500	23500	-	-	ohms
Transconductance (Per tube)	5500	5700	-	-	μmhos
Effective Load Resistance (Plate to plate)	5000	5000	5000	5000	ohms
Total Harmonic Distortion	2	2	2	2	%
Max.-Signal Power Output	14.5	17.5	13.8	18.5	watts

6L6-GC

Maximum Circuit Values:

Grid-No.1-Circuit Resistance:		
For fixed-bias operation	0.1 max.	megohm
For cathode-bias operation	0.5 max.	megohm

PUSH-PULL AF POWER AMPLIFIER — Class AB_1

Maximum Ratings, *Design-Maximum Values:*

PLATE VOLTAGE	500 max.	volts
GRID-No.2 VOLTAGE	450♦ max.	volts
GRID-No.2 INPUT	5 max.	watts
PLATE DISSIPATION	30 max.	watts
PEAK HEATER-CATHODE VOLTAGE:		
Heater negative with respect to cathode	200 max.	volts
Heater positive with respect to cathode	200★ max.	volts

Typical Operation:

Values are for 2 tubes

	Fixed Bias			*Cathode Bias*	
Plate Supply Voltage	360	450	450	360	volts
Grid-No.2 Supply Voltage	270	350	400	270	volts
Grid-No.1 (Control-Grid) Voltage♦	-22.5	-30	-37	–	volts
Cathode Resistor	–	–	–	248	ohms
Peak Af Grid-No.1-to-Grid-No.1 Voltage	45	60	70	40.6	volts
Zero-Signal Plate Current	88	95	116	88	ma
Max.-Signal Plate Current	132	194	210	100	ma
Zero-Signal Grid-No.2 Current	5	3.4	5.6	5	ma
Max.-Signal Grid-No.2 Current	15	19.2	22	17	ma
Effective Load Resistance (Plate to plate)	6600	6000	5600	9000	ohms
Total Harmonic Distortion	2	1.5	1.8	4	%
Max.-Signal Power Output	26.5	50	55	24.5	watts

Maximum Circuit Values:

Grid-No.1-Circuit Resistance:♦		
For fixed-bias operation	0.1 max.	megohm
For cathode-bias operation	0.5 max.	megohm

PUSH-PULL AF AMPLIFIER — Class AB_2

Maximum Ratings, *Design-Maximum Values:*

PLATE VOLTAGE	500 max.	volts
GRID-No.2 (SCREEN-GRID) VOLTAGE	450♦ max.	volts
GRID-No.2 INPUT	5 max.	watts
PLATE DISSIPATION	30 max.	watts
PEAK HEATER-CATHODE VOLTAGE:		
Heater negative with respect to cathode	200 max.	volts
Heater positive with respect to cathode	200★ max.	volts

Typical Operation:

Values are for 2 tubes

	Fixed Bias		
Plate Voltage	360	360	volts
Grid-No.2 Voltage	225	270	volts
Grid-No.1 (Control-Grid) Voltage♦	-18	-22.5	volts
Peak AF Grid-No.1 to Grid-No.1 Voltage	52	72	volts
Zero-Signal Plate Current	78	88	ma
Max.-Signal Plate Current	142	205	ma
Zero-Signal Grid-No.2 Current	3.5	5	ma
Max.-Signal Grid-No.2 Current	11	16	ma
Effective Load Resistance (Plate to plate)	6000	3800	ohms
Peak Grid-Input Power♠	140	270	mw
Total Harmonic Distortion	2	2	%
Max.-Signal Power Output	31	47	watts

Maximum Circuit Values:

Grid-No.1-Circuit Resistance:♠

For fixed-bias operation	0.1 max. megohm
For cathode-bias operation	Not recommended

▲ Without external shield.

● On the 6-pin bases, pin 1 as well as pin 6 is omitted.

★ The dc component must not exceed 100 volts.

♦ In push-pull circuits where grid No.2 of each tube is connected to a tap on the plate winding of the output transformer, it is permissible for this voltage to be as high as 500 volts.

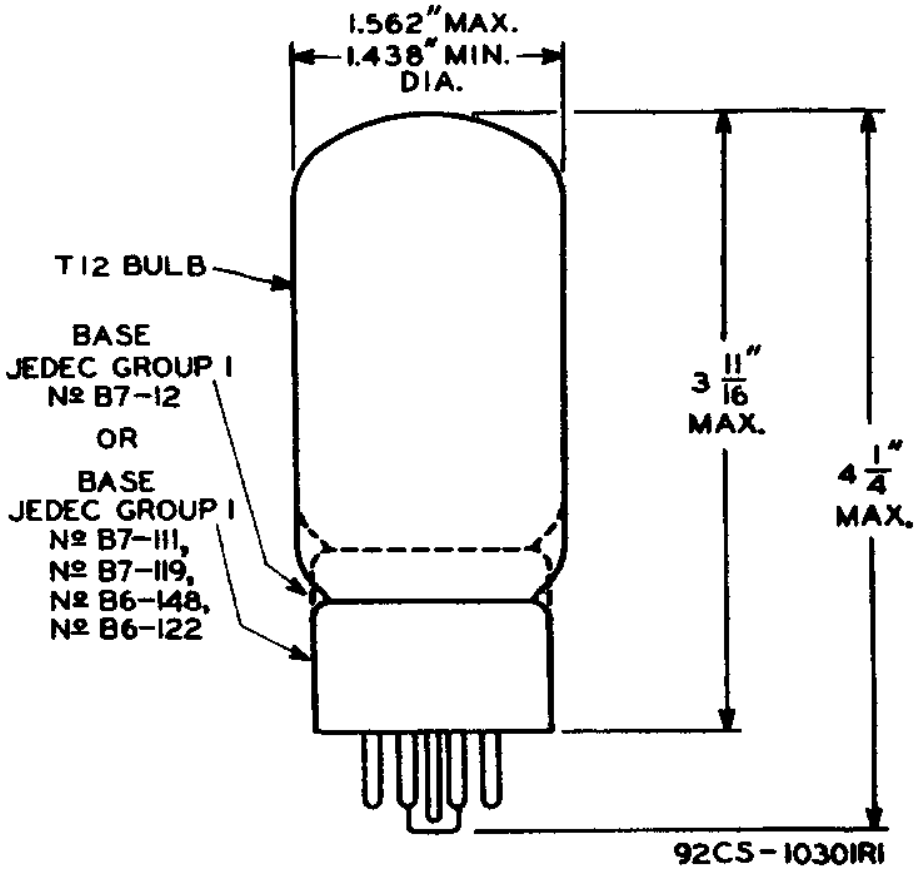
♦ The type of input coupling used should not introduce too much resistance in the grid-No.1 circuit. Transformer- or impedance-coupling devices are recommended.

♠ Driver stage should be capable of supplying the specified driving power at low distortion to the No.1 grids of the AB_2 stage. To minimize distortion, the effective resistance per grid-No.1 circuit of the AB_2 stage should be held at a low value. For this purpose, the use of transformer coupling is recommended.

OPERATING CONSIDERATIONS

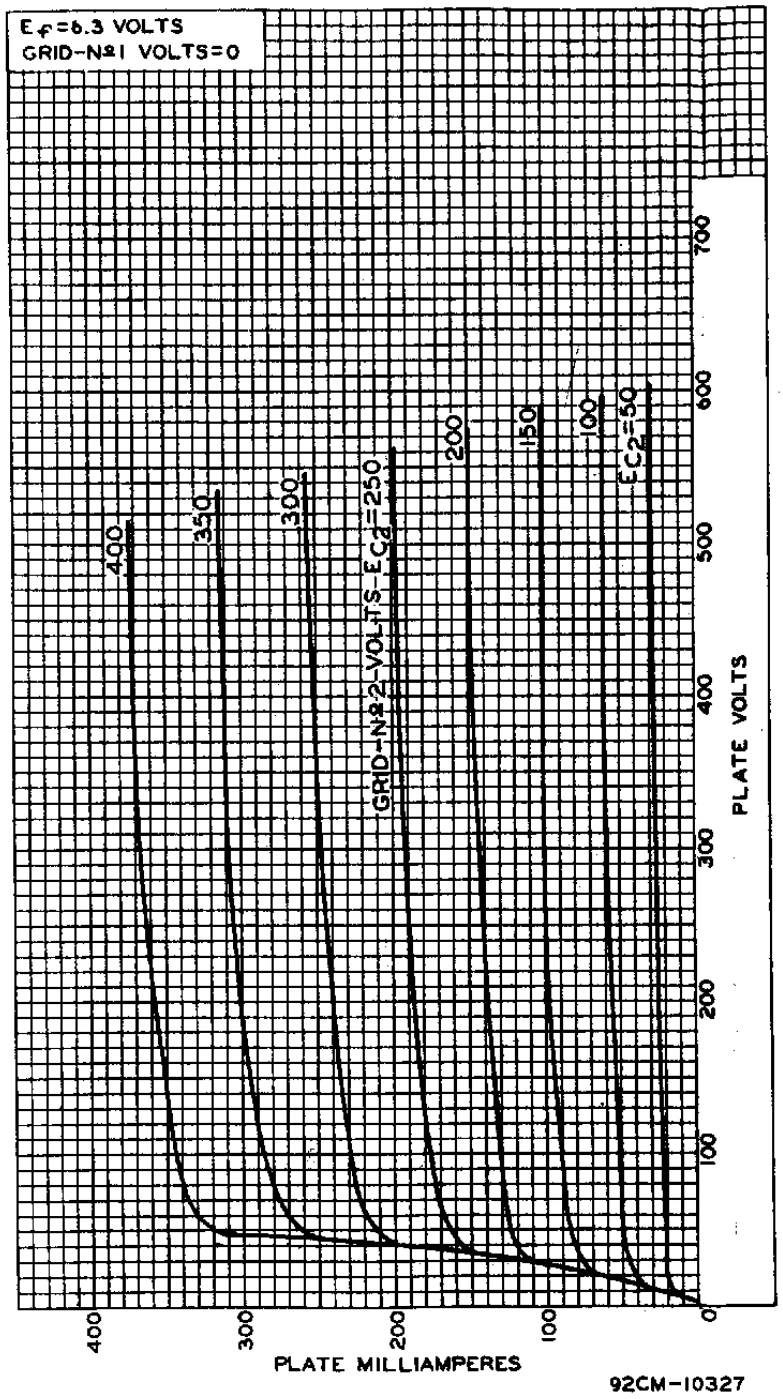
The *bulb* becomes hot during operation. To insure adequate cooling, therefore, it is essential that free circulation of air be provided.

6L6-GC


1.562" MAX.
1.438" MIN.
DIA.
T12 BULB
BASE
JEDEC GROUP 1
№ B7-12
OR
BASE
JEDEC GROUP 1
№ B7-111,
№ B7-119,
№ B6-148,
№ B6-122
3 11/16"
MAX.
4 1/4"
MAX.
92CS-10301R1

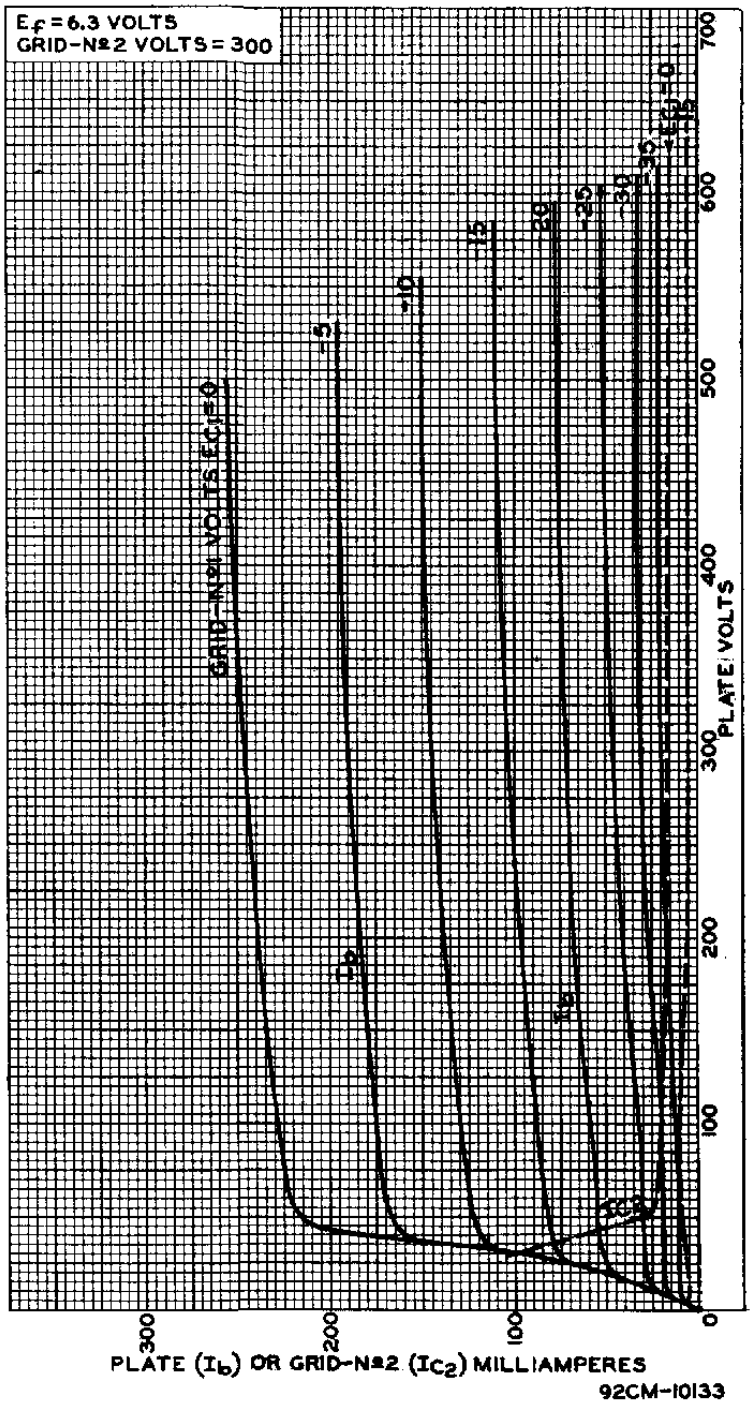
6L6-GC

AVERAGE PLATE CHARACTERISTICS



6L6-GC

AVERAGE CHARACTERISTICS



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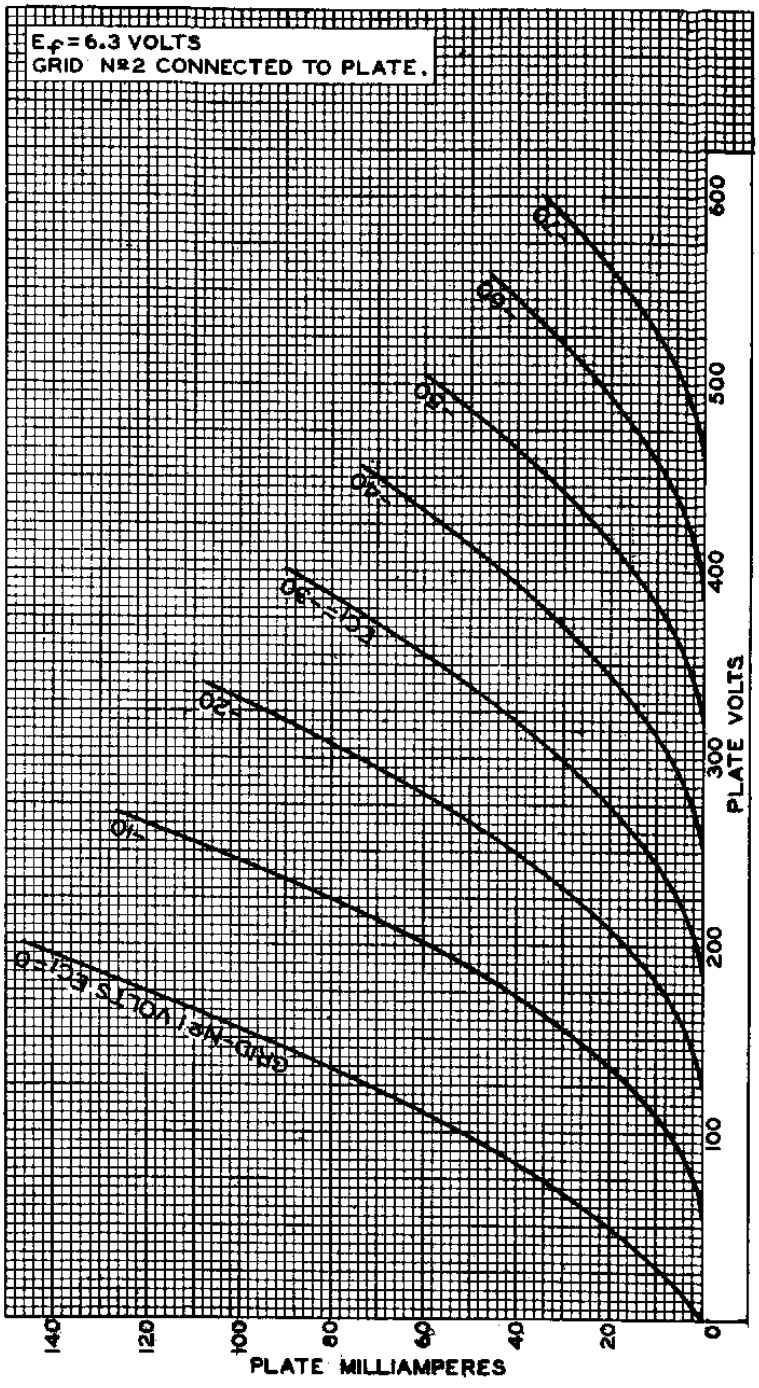
AVERAGE PLATE CHARACTERISTICS
Triode Connection



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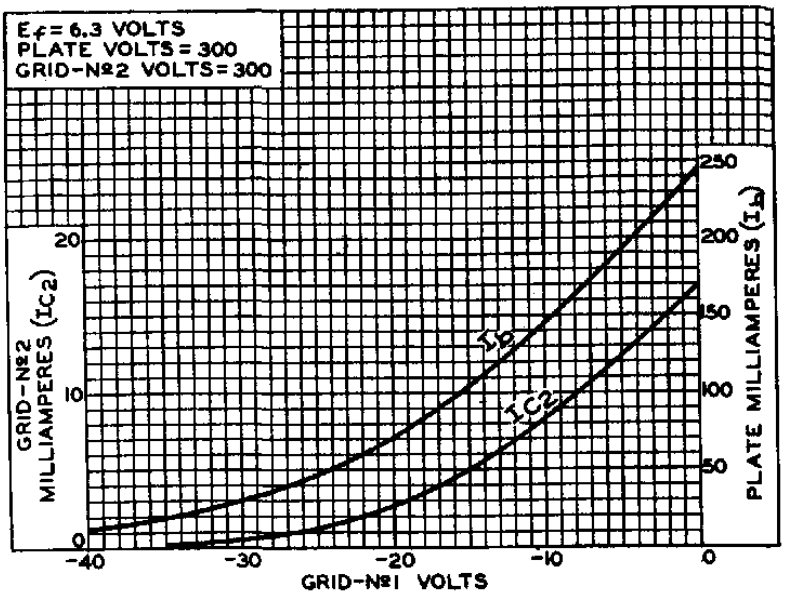
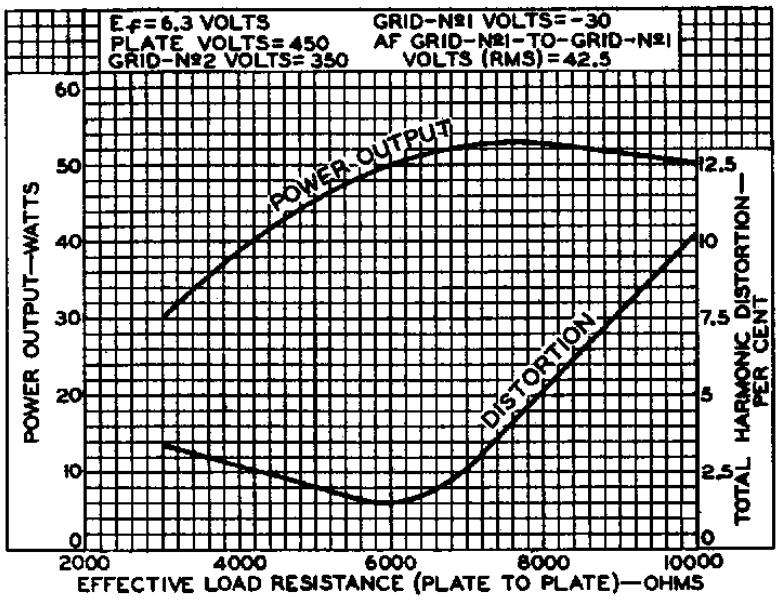
6L6-GC

AVERAGE CHARACTERISTICS



92CS-10126

OPERATION CHARACTERISTICS
Push-Pull Class AB1



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