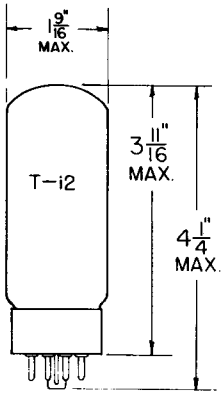
TUNG-SOL

PENTODE



GLASS BULB

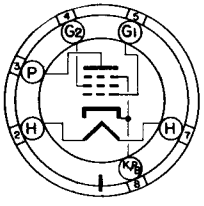
COATED UNIPOTENTIAL CATHODE

HEATER

6.3 VOLTS 0.9 AMP.

AC OR DC

ANY MOUNTING POSITION



BOTTOM VIEW

SHORT MEDIUM SHELL
6 PIN OCTAL

SHORT MEDIUM SHELL
7 PIN OCTAL

MEDIUM SHELL
7 PIN OCTAL

7AC

THE 6L6GC IS A BEAM-POWER PENTODE PRIMARILY DESIGNED FOR USE IN AUDIO-FREQUENCY POWER AMPLIFIER APPLICATIONS. THE 6L6GC HAS THE SAME CHARACTERISTICS AS THE 6L6GB. HOWEVER, THE HIGHER POWER RATINGS OF THE 6L6GC ARE ADVANTAGEOUS WHERE GREATER POWER-HANDLING CAPABILITY IS REQUIRED.

DIRECT INTERELECTRODE CAPACITANCES -approx.

WITHOUT EXTERNAL SHIELD

GRID #1 TO PLATE	0.6	μμf
INPUT	10	μμf
OUTPUT	6.5	μμf

RATINGS

INTERPRETED ACCORDING TO DESIGN MAXIMUM SYSTEM

	TRIODE[B] CONNECTION	PENTODE CONNECTION	
HEATER VOLTAGE	6.3	6.3	VOLTS
MAXIMUM PLATE VOLTAGE	450	500	VOLTS
MAXIMUM SCREEN VOLTAGE		450[A]	
MAXIMUM PLATE DISSIPATION	30	30	WATTS
MAXIMUM SCREEN DISSIPATION		5.0	WATTS
MAXIMUM HEATER-CATHODE VOLTAGE:			
HEATER POSITIVE WITH RESPECT TO CATHODE	200	200	VOLTS
HEATER NEGATIVE WITH RESPECT TO CATHODE	200	200	VOLTS
MAXIMUM GRID #1 CIRCUIT RESISTANCE:			
WITH FIXED BIAS	0.1	0.1	MEG.
WITH CATHODE BIAS	0.5	0.5	MEG.

CONTINUED ON FOLLOWING PAGE

TUNG-SOL

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TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

CLASS A_1 AMPLIFIER - TRIODE CONNECTION[B]

HEATER VOLTAGE	6.3	VOLTS
HEATER CURRENT	0.9	AMP.
PLATE VOLTAGE	250	VOLTS
GRID #1 VOLTAGE	−20	VOLTS
PEAK AF GRID #1 VOLTAGE	20	VOLTS
AMPLIFICATION FACTOR	8	
PLATE RESISTANCE, APPROX.	1700	OHMS
TRANSCONDUCTANCE	4700	μMHOS
ZERO-SIGNAL PLATE CURRENT	40	MA.
MAXIMUM-SIGNAL PLATE CURRENT	44	MA.
LOAD RESISTANCE	5000	OHMS
TOTAL HARMONIC DISTORTION, APPROX.	5	PERCENT
MAXIMUM-SIGNAL POWER OUTPUT	1.4	WATTS

CLASS A_1 AMPLIFIER - PENTODE CONNECTION

PLATE VOLTAGE	250	300	350	VOLTS
SCREEN VOLTAGE	250	200	250	VOLTS
GRID #1 VOLTAGE	−14	−12.5	−18	VOLTS
PEAK AF GRID #1 VOLTAGE	14	12.5	18	VOLTS
PLATE RESISTANCE, APPROX.	22500	35000	33000	OHMS
TRANSCONDUCTANCE	6000	5300	5200	μMHOS
ZERO-SIGNAL PLATE CURRENT	72	48	54	MA.
MAXIMUM-SIGNAL PLATE CURRENT	79	55	66	MA.
ZERO-SIGNAL SCREEN CURRENT	5.0	2.5	2.5	MA.
MAXIMUM-SIGNAL SCREEN CURRENT	7.3	4.7	7.0	MA.
LOAD RESISTANCE	2500	4500	4200	OHMS
TOTAL HARMONIC DISTORTION, APPROX.	10	11	15	PERCENT
MAXIMUM-SIGNAL POWER OUTPUT	6.5	6.5	10.8	WATTS

PUSH-PULL CLASS A_1 AMPLIFIER - VALUES FOR TWO TUBES

PLATE VOLTAGE	250	270	VOLTS
SCREEN VOLTAGE	250	270	VOLTS
GRID #1 VOLTAGE	−16	−17.5	VOLTS
PEAK AF GRID TO GRID VOLTAGE	32	35	VOLTS
ZERO-SIGNAL PLATE CURRENT	120	134	MA.
MAXIMUM SIGNAL PLATE CURRENT	140	155	MA.
ZERO-SIGNAL SCREEN CURRENT	10	11	MA.
MAXIMUM-SIGNAL SCREEN CURRENT	16	17	MA.
EFFECTIVE LOAD RESISTANCE, PLATE-TO-PLATE	5000	5000	OHMS
TOTAL HARMONIC DISTORTION	2	2	PERCENT
MAXIMUM SIGNAL POWER OUTPUT	14.5	17.5	WATTS

PUSH-PULL CLASS AB_1 AMPLIFIER -VALUES FOR TWO TUBES

PLATE VOLTAGE	360	360	450	VOLTS
SCREEN VOLTAGE	270	270	400	VOLTS
GRID #1 VOLTAGE	−22.5	−22.5	−37	VOLTS
PEAK AF GRID-TO-GRID VOLTAGE	45	45	70	VOLTS

CONTINUED ON FOLLOWING PAGE

TUNG-SOL

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TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS -cont'd.

PUSH-PULL CLASS AB_1 AMPLIFIER -VALUES FOR TWO TUBES
CONTINUED

ZERO-SIGNAL PLATE CURRENT	88	88	116	MA.
MAXIMUM-SIGNAL PLATE CURRENT	132	140	210	MA.
ZERO-SIGNAL SCREEN CURRENT	5.0	5.0	5.6	MA.
MAXIMUM-SIGNAL SCREEN CURRENT	15	11	22	MA.
EFFECTIVE LOAD RESISTANCE, PLATE-TO-PLATE	6600	3800	5600	OHMS
TOTAL HARMONIC DISTORTION	2	2	1.8	PERCENT
MAXIMUM-SIGNAL POWER OUTPUT	26.5	18	55	WATTS

PUSH-PULL CLASS AB_2 AMPLIFIER -VALUES FOR TWO TUBES

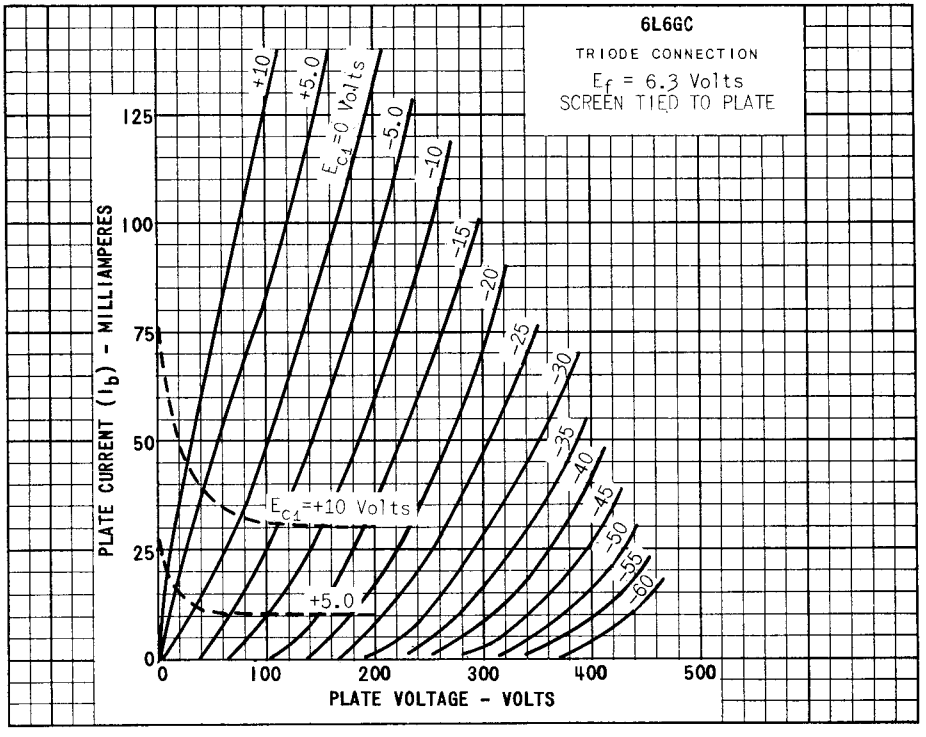
PLATE VOLTAGE	360	360	VOLTS
SCREEN VOLTAGE	225	270	VOLTS
GRID #1 VOLTAGE	-18	-22.5	VOLTS
PEAK AF GRID-TO-GRID VOLTAGE	52	72	VOLTS
ZERO-SIGNAL PLATE CURRENT	78	88	MA.
MAXIMUM-SIGNAL PLATE CURRENT	142	205	MA.
ZERO-SIGNAL SCREEN CURRENT	3.5	5.0	MA.
MAXIMUM-SIGNAL SCREEN CURRENT	11	16	MA.
EFFECTIVE LOAD RESISTANCE, PLATE-TO-PLATE	6000	3800	OHMS
TOTAL HARMONIC DISTORTION	2	2	PERCENT
MAXIMUM-SIGNAL POWER OUTPUT	31	47	WATTS

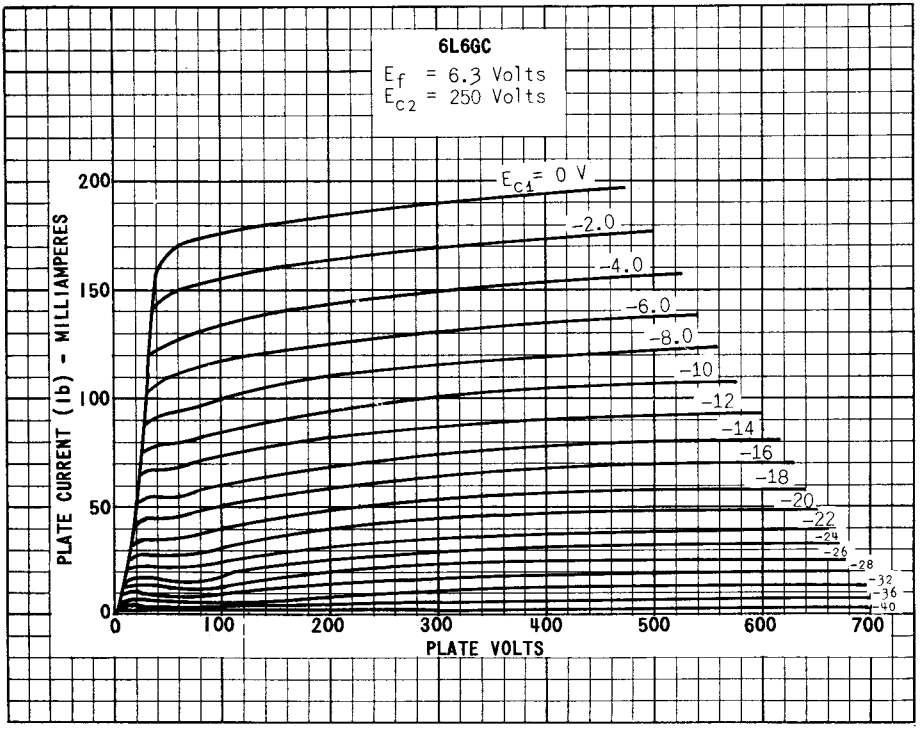
DESIGN-MAXIMUM RATINGS ARE LIMITING VALUES OF OPERATING AND ENVIRONMENTAL CONDITIONS APPLICABLE TO A BOGEY TUBE OF A SPECIFIED TYPE AS DEFINED BY ITS PUBLISHED DATA, AND SHOULD NOT BE EXCEEDED UNDER THE WORST PROBABLE CONDITIONS. THE TUBE MANUFACTURER CHOOSES THESE VALUES TO PROVIDE ACCEPTABLE SERVICEABILITY OF THE TUBE TAKING RESPONSIBILITY FOR THE EFFECTS OF CHANGES IN OPERATING CONDITIONS DUE TO VARIATIONS IN TUBE CHARACTERISTICS. THE EQUIPMENT MANUFACTURER SHOULD DESIGN SO THAT INITIALLY AND THROUGHOUT LIFE NO DESIGN-MAXIMUM VALUE FOR THE INTENDED SERVICE IS EXCEEDED WITH A BOGEY TUBE UNDER THE WORST PROBABLE OPERATING CONDITIONS WITH RESPECT TO SUPPLY-VOLTAGE VARIATION, EQUIPMENT COMPONENT VARIATION, EQUIPMENT CONTROL ADJUSTMENT, LOAD VARIATION, SIGNAL VARIATION, AND ENVIRONMENTAL CONDITIONS.

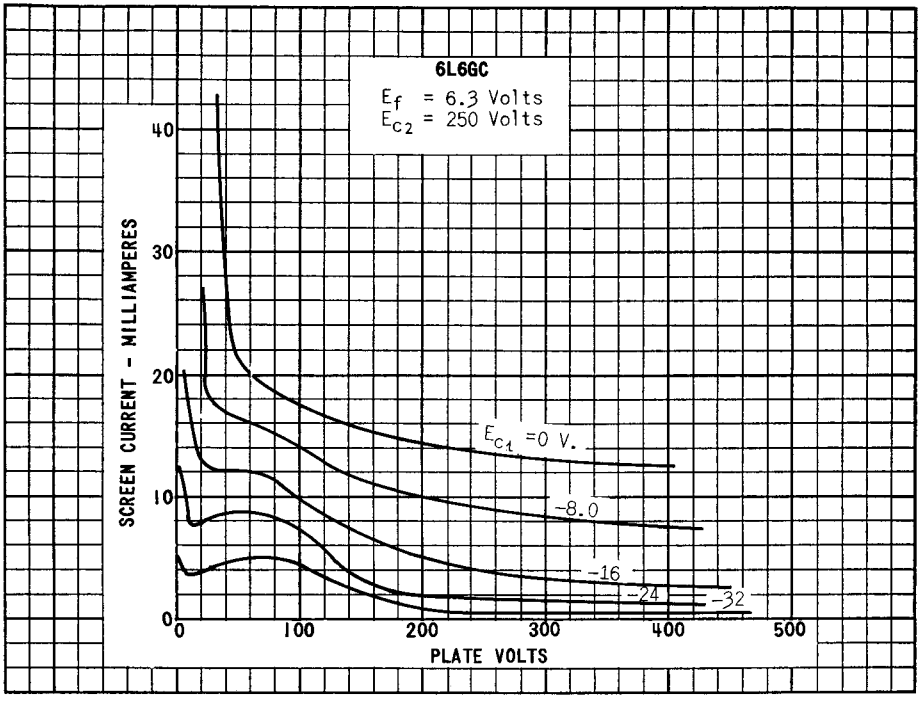
A. THE MAXIMUM SCREEN VOLTAGE RATING IS 500 VOLTS IN PUSH-PULL CIRCUITS WHERE THE SCREEN OF EACH TUBE IS CONNECTED TO A TAP ON THE PLATE WINDING OF THE OUTPUT TRANSFORMER.

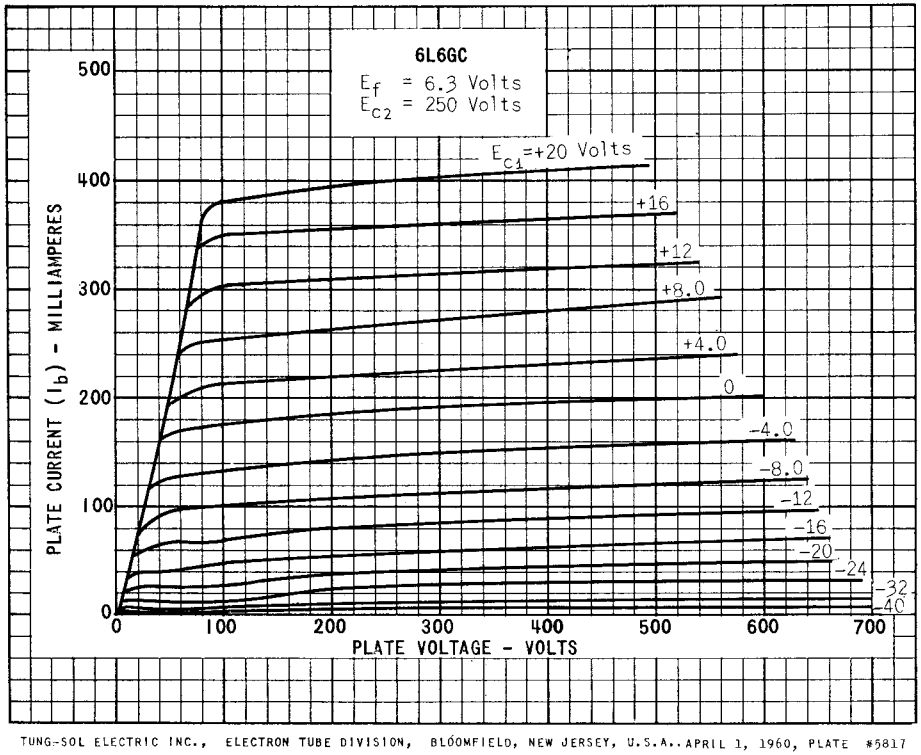
B. WITH SCREEN CONNECTED TO PLATE.

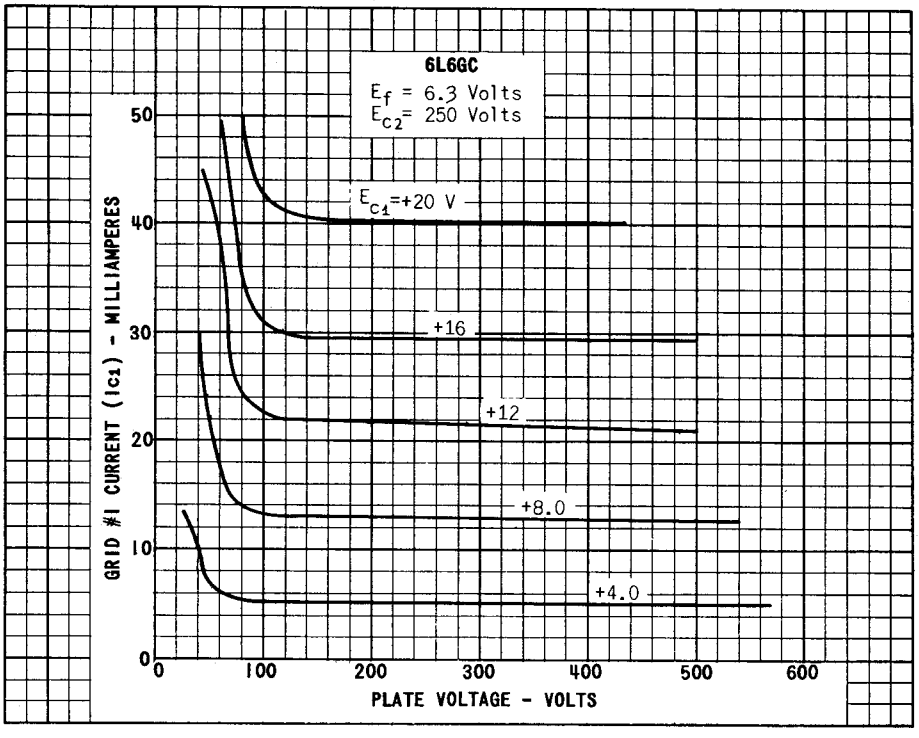
TENTATIVE DATA

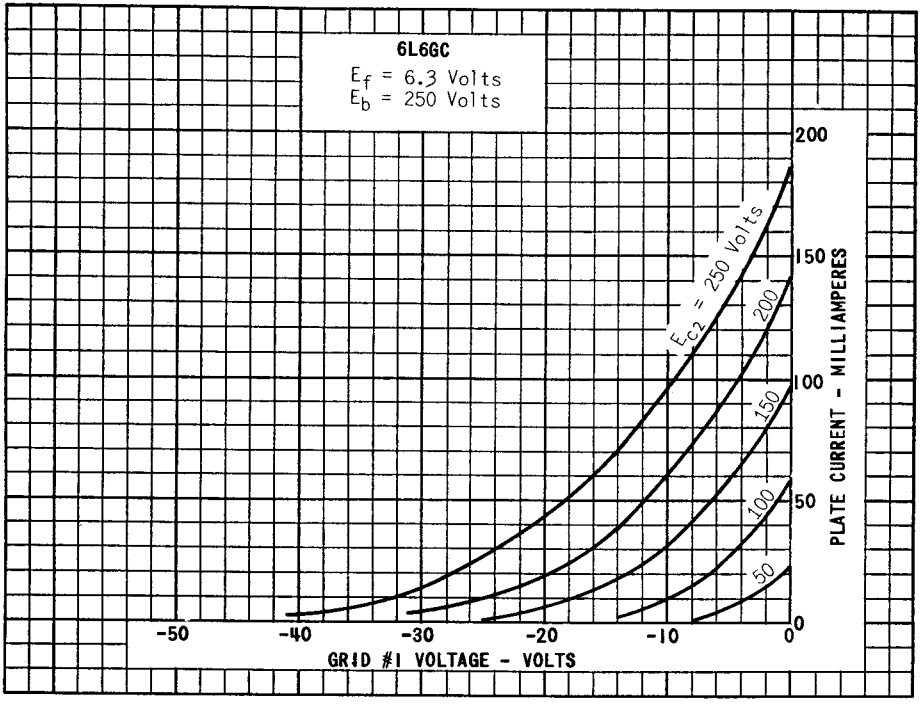


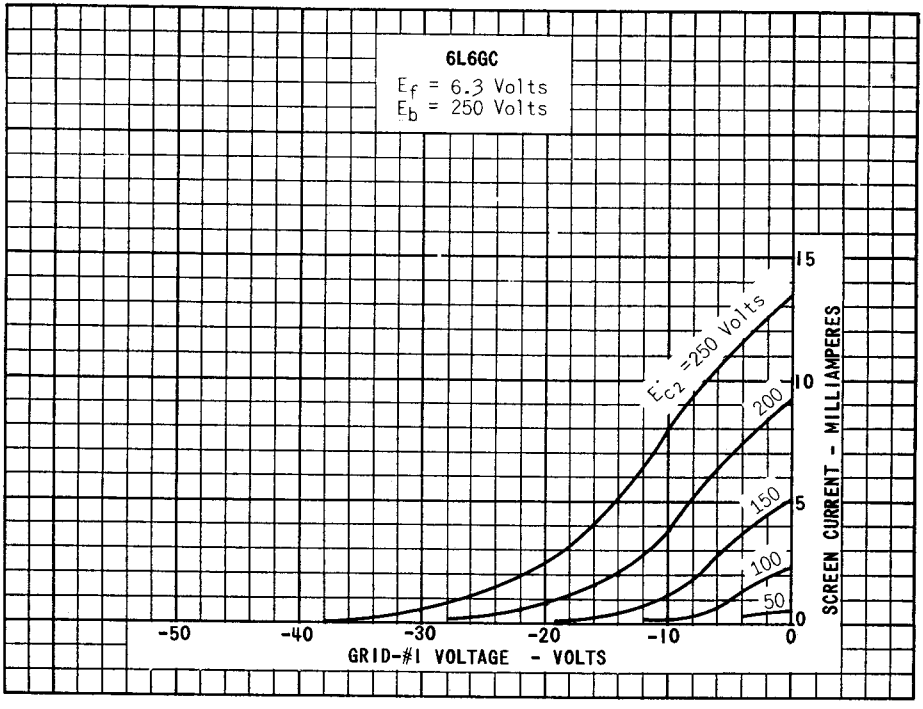


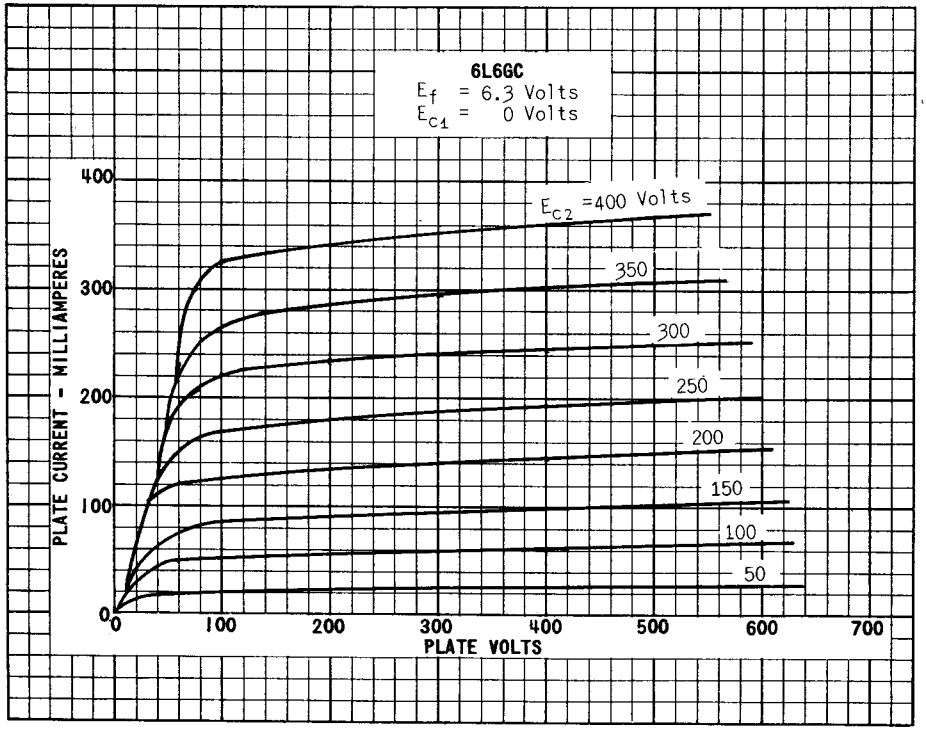

6L6GC
E_f = 6.3 Volts
E_{c2} = 250 Volts
SCREEN CURRENT - MILLIAMPERES
PLATE VOLTS
E_{c1} =0 V.
-8.0
-16
-24
-32
0
10
20
30
40
0
100
200
300
400
500


6L6GC
E_f = 6.3 Volts
E_{c2} = 250 Volts
PLATE CURRENT (I_b) - MILLIAMPERES
PLATE VOLTAGE - VOLTS
E_{c1} =+20 Volts
+16
+12
+8.0
+4.0
0
-4.0
-8.0
-12
-16
-20
-24
-32
-40
0
100
200
300
400
500
600
700

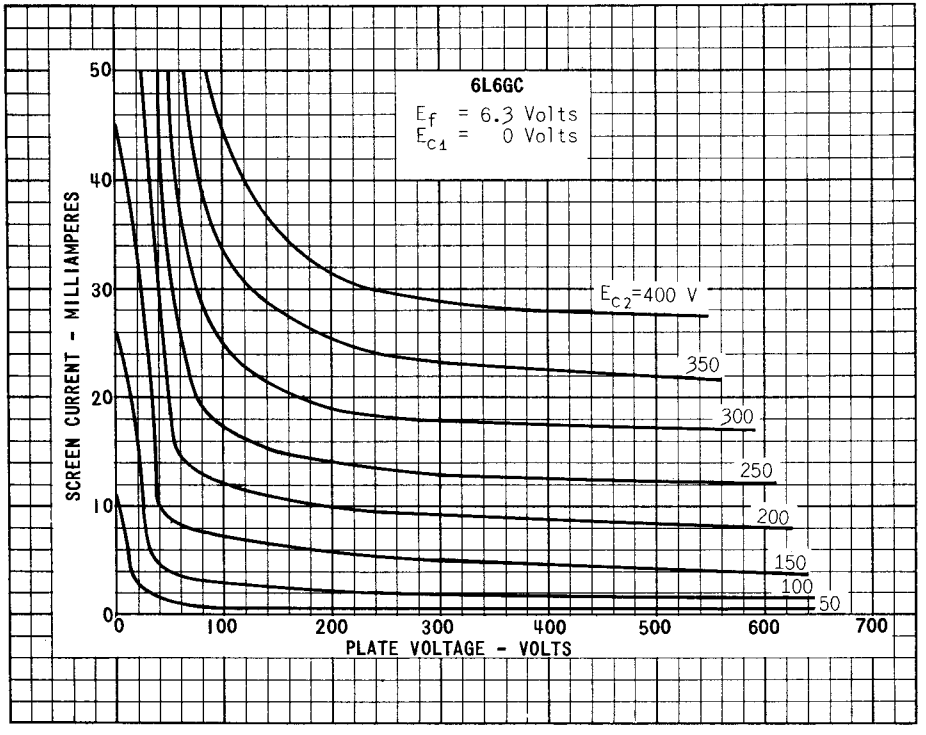

6L6GC
E_f = 6.3 Volts
E_{c2} = 250 Volts
E_{c1}=+20 V
+16
+12
+8.0
+4.0
GRID #1 CURRENT (I_{c1}) - MILLIAMPERES
0
10
20
30
40
50
0
100
200
300
400
500
600
PLATE VOLTAGE - VOLTS

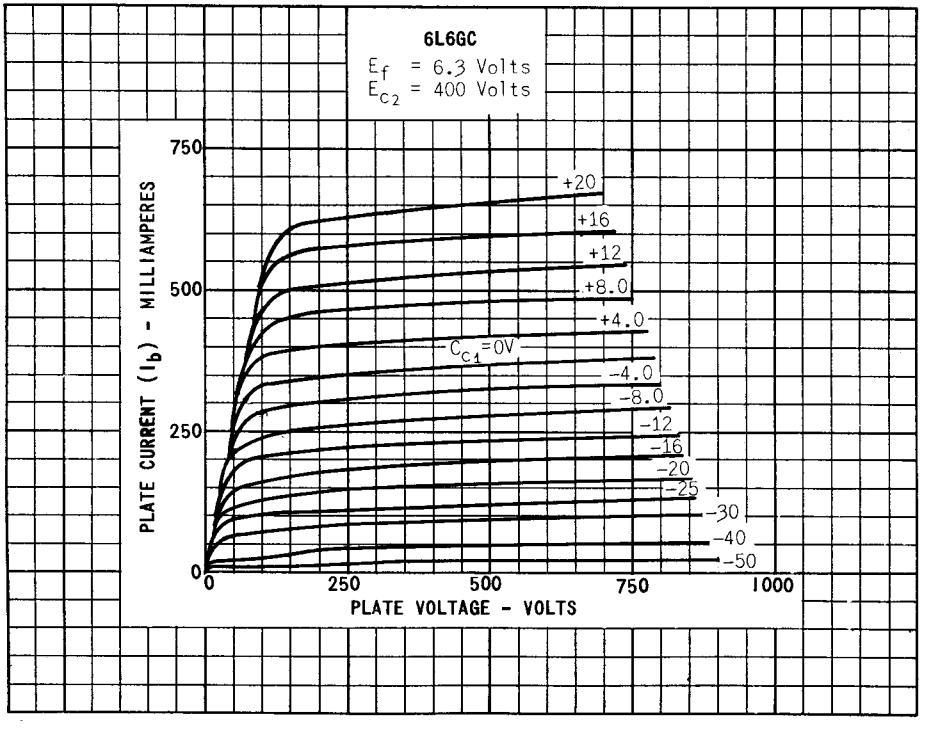

6L6GC
E_f = 6.3 Volts
E_b = 250 Volts
E_{c2} = 250 Volts
200
150
100
50
PLATE CURRENT - MILLIAMPERES
0
50
100
150
200
-50
-40
-30
-20
-10
0
GRID #1 VOLTAGE - VOLTS

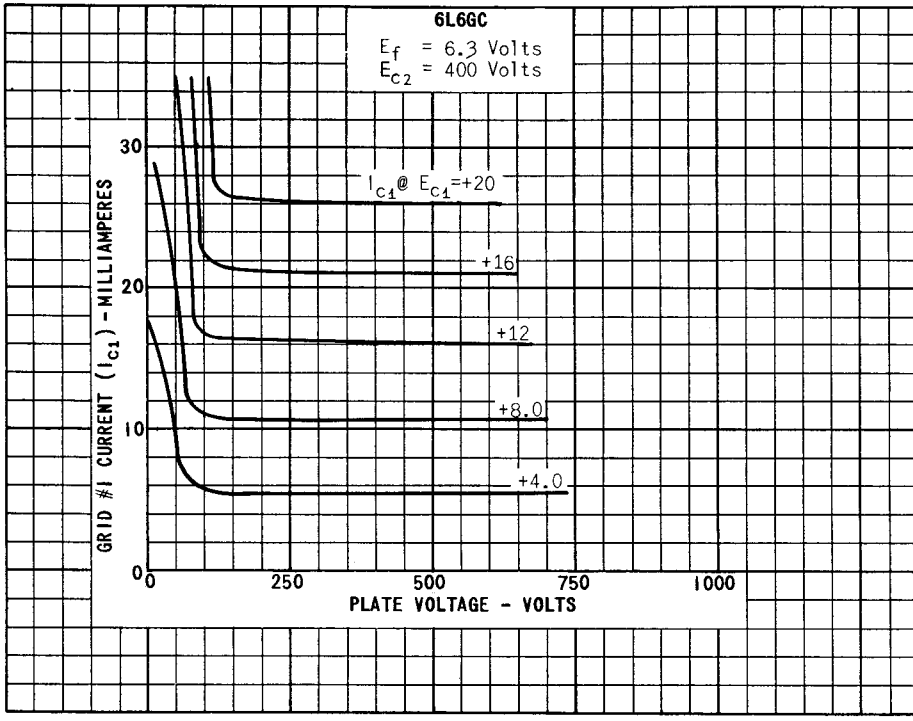


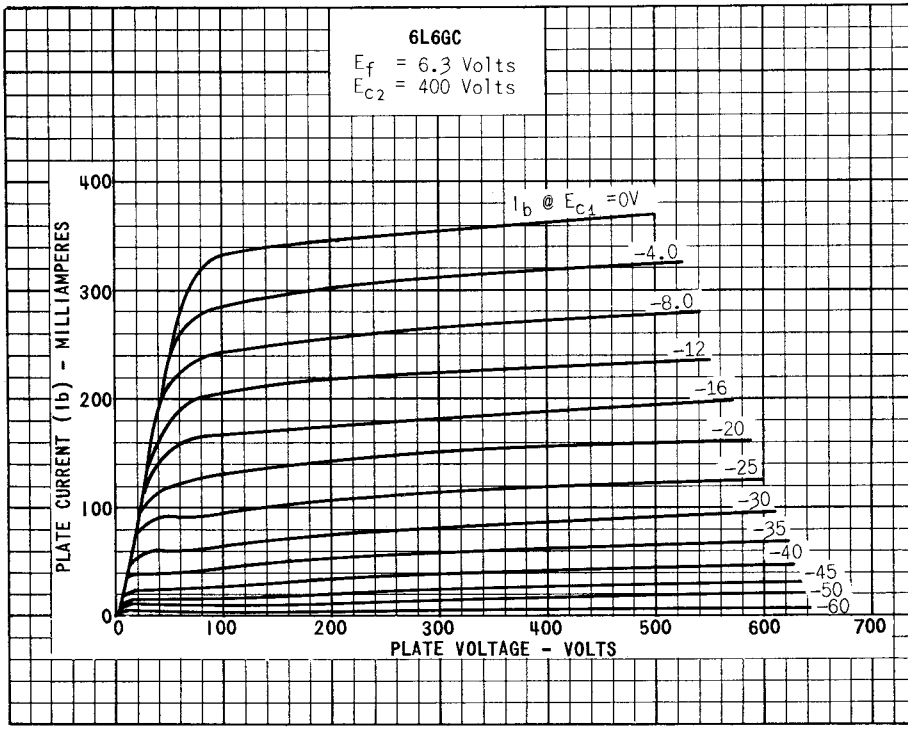


TENTATIVE DATA

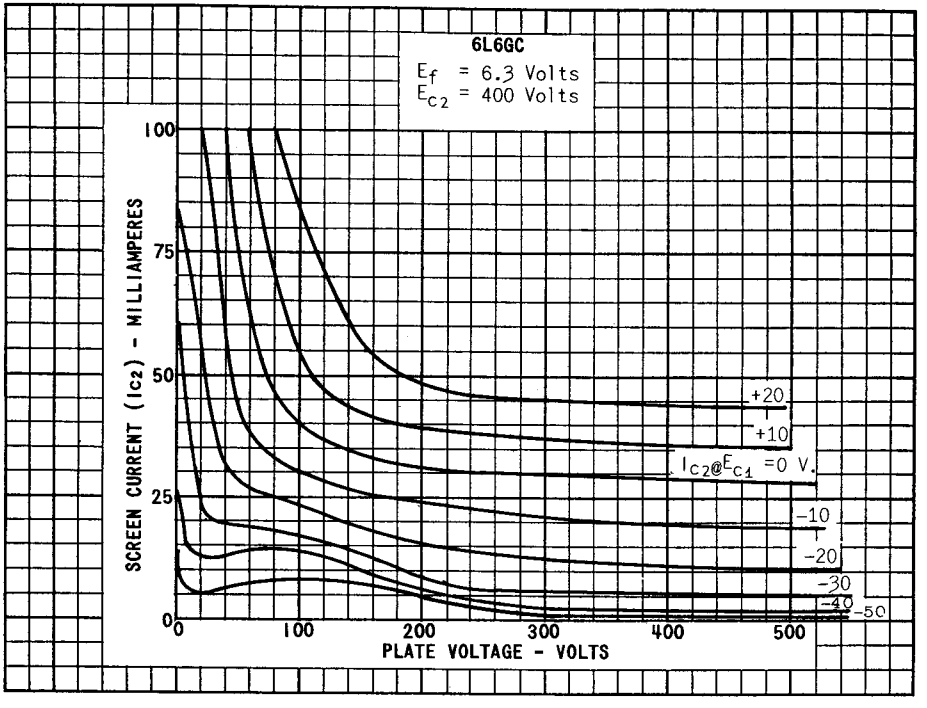


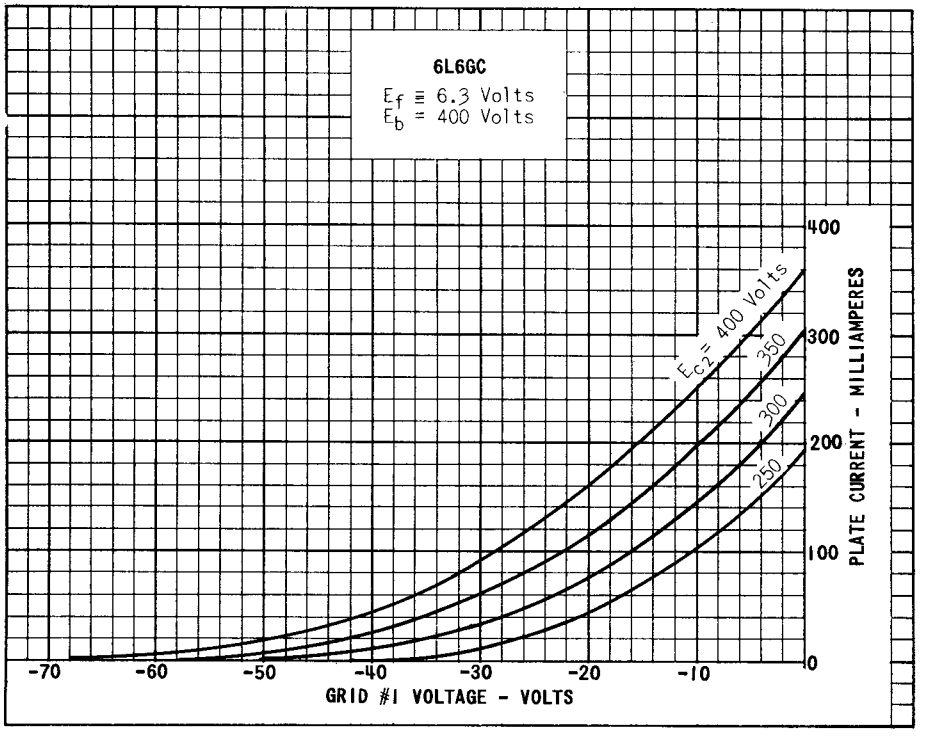


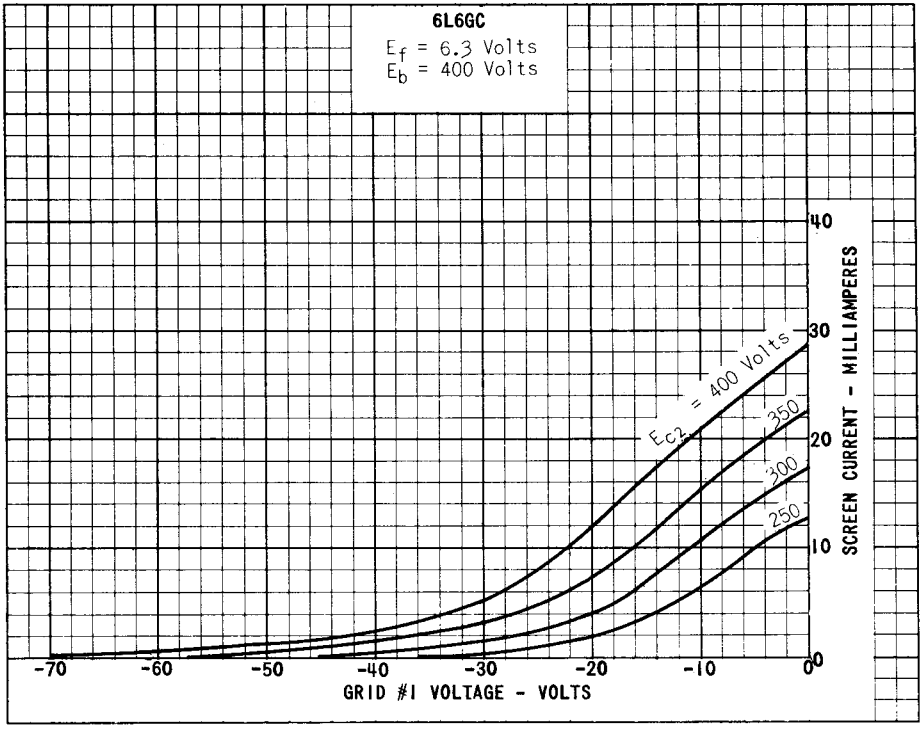

6L6GC
E_f = 6.3 Volts
E_{c2} = 400 Volts
I_{c1} @ E_{c1}=+20
+16
+12
+8.0
+4.0
GRID #1 CURRENT (I_{c1}) - MILLIAMPERES
0
10
20
30
0
250
500
750
1000
PLATE VOLTAGE - VOLTS

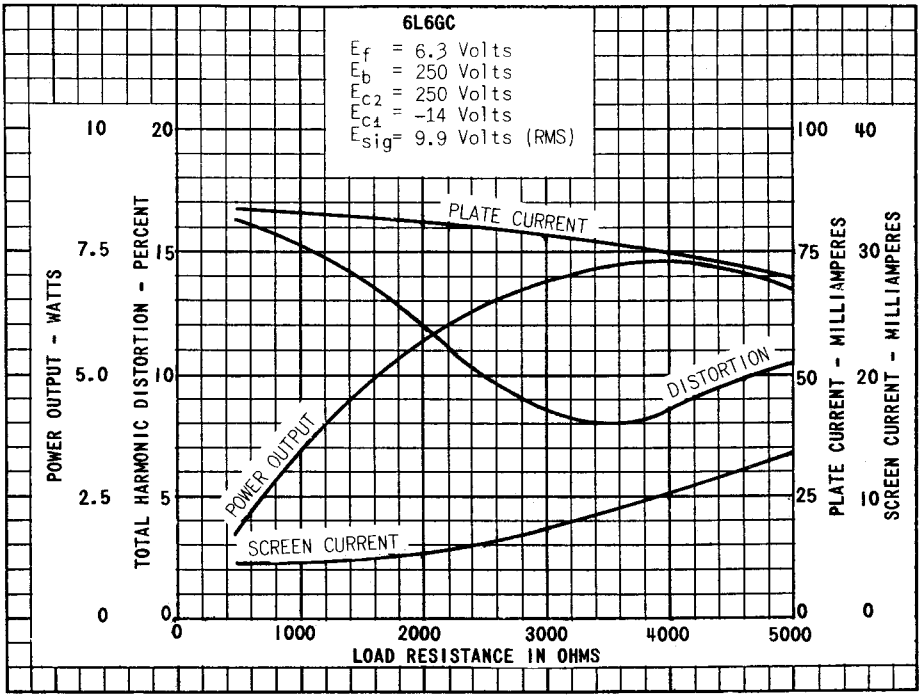

6L6GC
E_f = 6.3 Volts
E_{c2} = 400 Volts
I_b @ E_{c1} =0V
-4.0
-8.0
-12
-16
-20
-25
-30
-35
-40
-45
-50
-60
PLATE CURRENT (Ib) - MILLIAMPERES
0
100
200
300
400
0
100
200
300
400
500
600
700
PLATE VOLTAGE - VOLTS

TENTATIVE DATA









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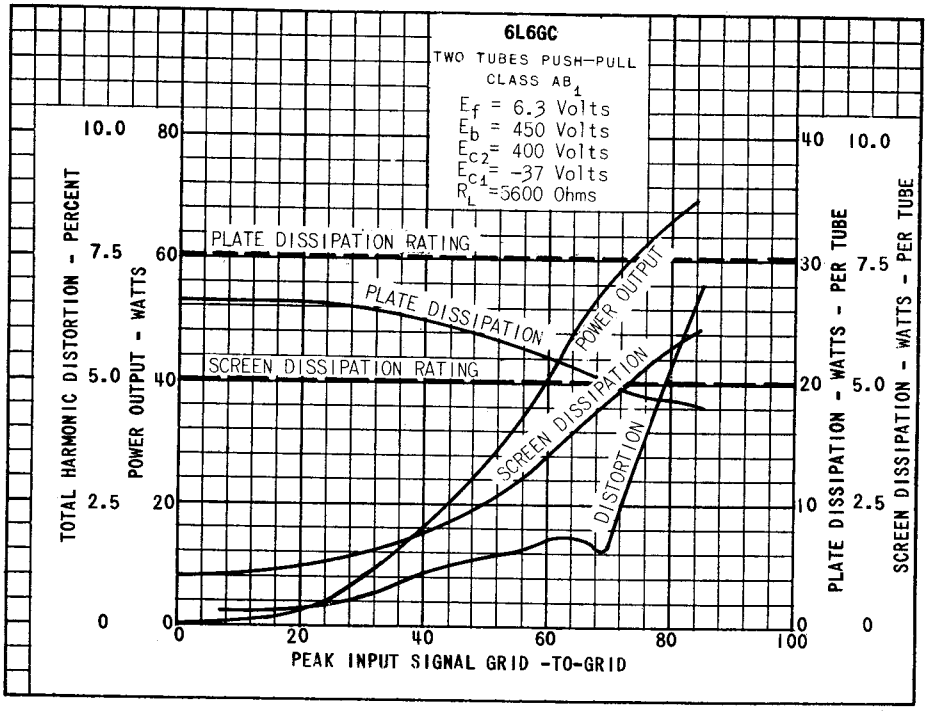
6L6GC


6L6GC
TWO TUBES PUSH-PULL
CLASS AB1
Ef = 6.3 Volts
Eb = 450 Volts
Ec2 = 400 Volts
Ec1 = -37 Volts
RL = 5600 Ohms
PLATE DISSIPATION RATING
PLATE DISSIPATION
SCREEN DISSIPATION RATING
POWER OUTPUT
SCREEN DISSIPATION
DISTORTION
TOTAL HARMONIC DISTORTION - PERCENT
POWER OUTPUT - WATTS
PLATE DISSIPATION - WATTS - PER TUBE
SCREEN DISSIPATION - WATTS - PER TUBE
PEAK INPUT SIGNAL GRID -TO-GRID
10.0
7.5
5.0
2.5
0
80
60
40
20
0
40
30
20
10
0
100