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6L6GC

1. Overview

The 6L6GC is a beam-power pentode primarily designed for use in audio frequency power amplifier applications. Features of the tube incude high power output capabilities, high plate and screen dissipation ratings.

2. Specifications

Heater	
U_H	6.3 V
I_H	0.9 A
Maximum Ratings	
Plate Voltage	400 V
Grid #2 Voltage	400 V
Plate Dissipation	23 W
Grid #2 Dissipation	-3 W
Heater-Cathode Voltage	±200 V
Grid #1 Resistance	
Cathode Bias	0.5 MΩ
Fixed Bias	0.1 MΩ
Direct Interelectrode Capacitances	
Input	11.5 PF
Output	9.5 PF
Grid To Plate	0.9 PF
Static Parameter	
Ua	250 V
Ug_2	250 V
$-Ug_1$	14 V
Ia	72 mA
Ig_2	5 mA
Gm	6 mA/V
ri	22.5 kΩ
$\mu_{g1—g2}$	6.2
Pout	6.5 W

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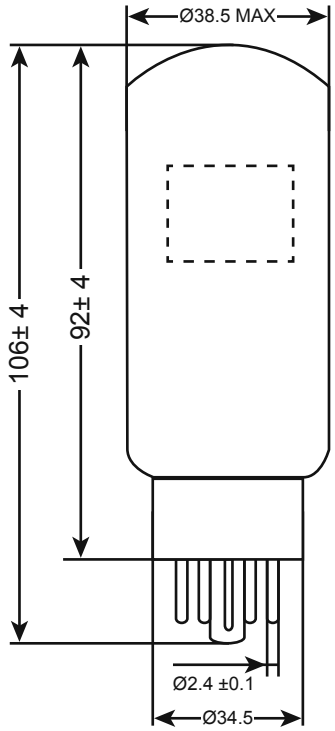
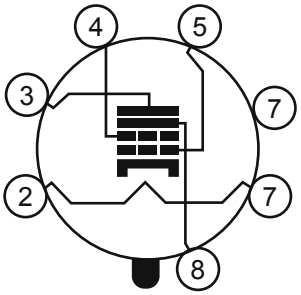


BASING DIAGRAM

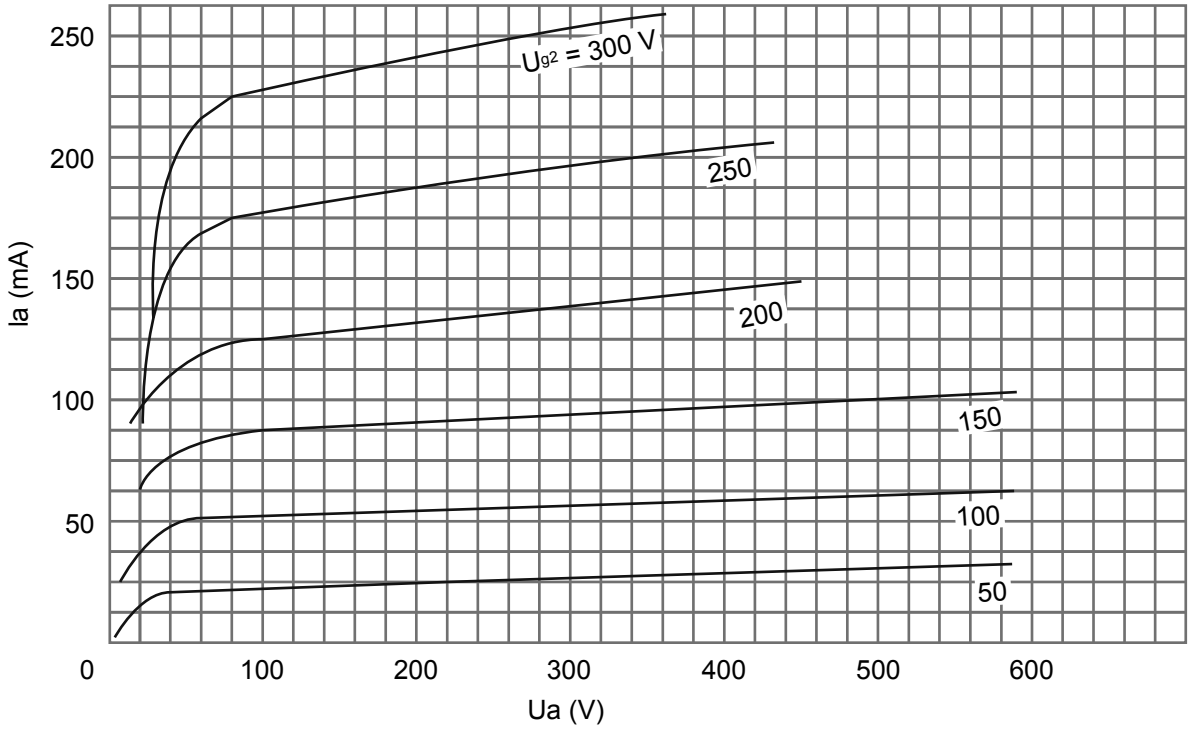


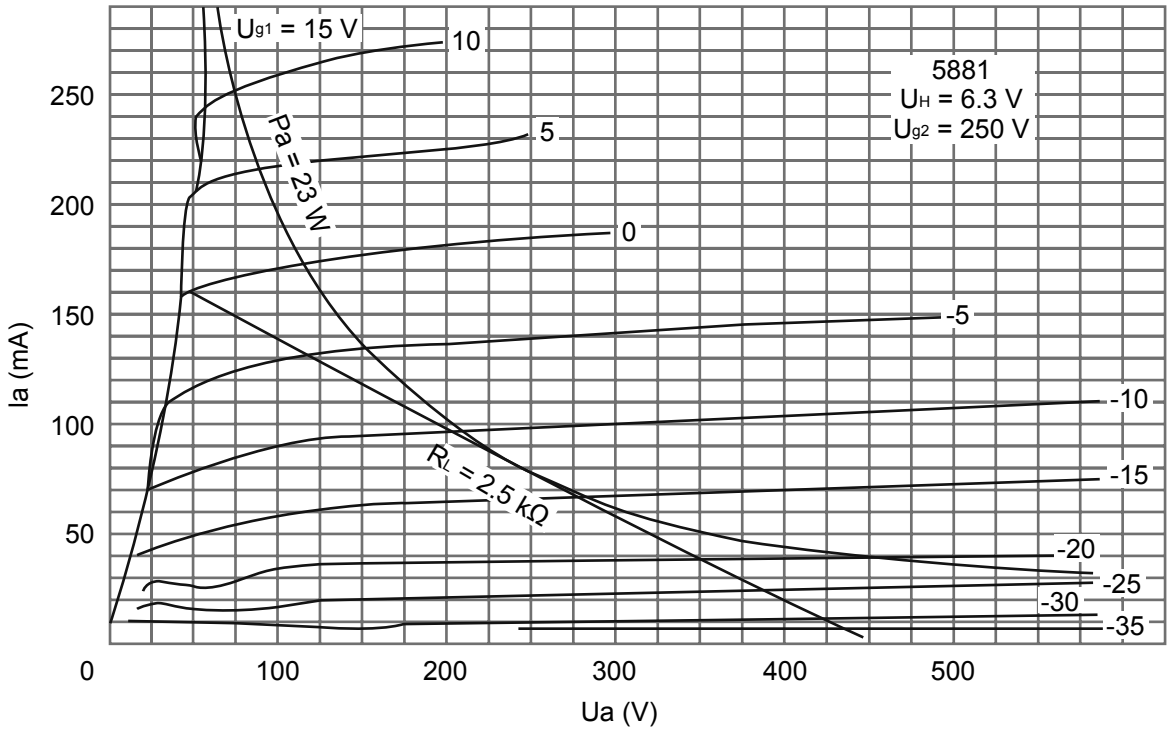
KEY

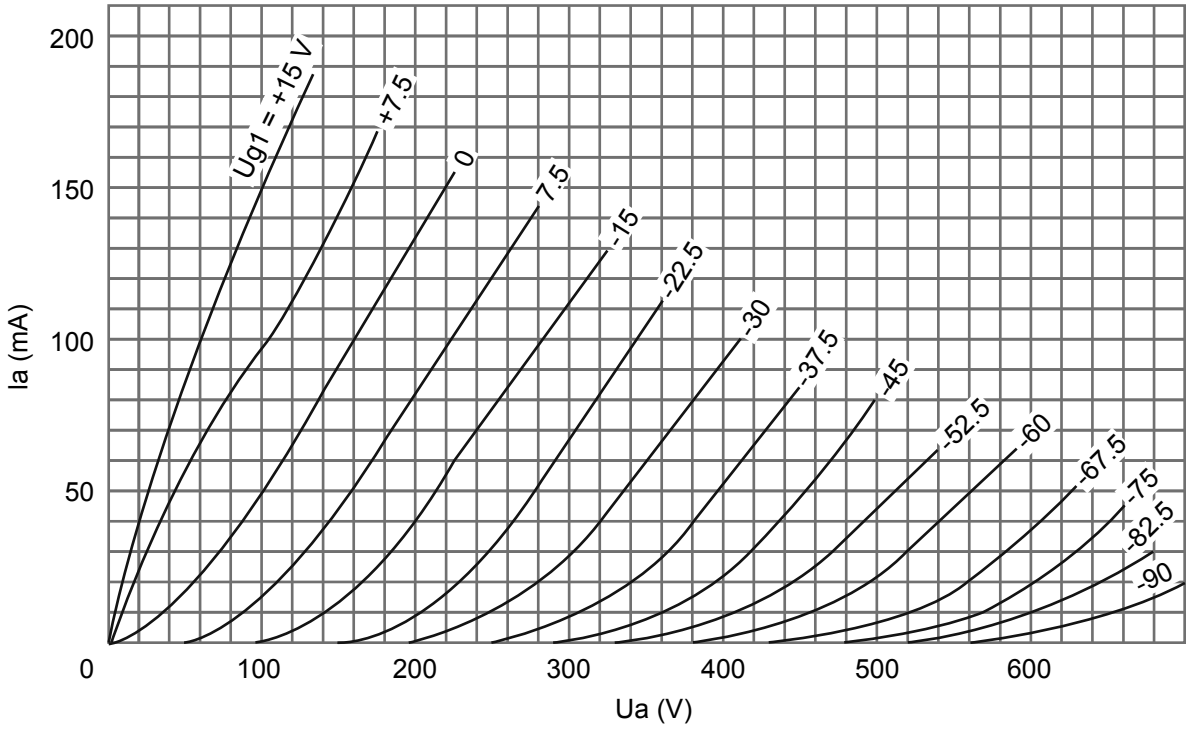
Terminal Connections
Pin 1 – No Connection
Pin 2 – Heater
Pin 3 – Plate
Pin 4 – Grid Number 2 (Screen)
Pin 5 – Grid Number 1
Pin 7 – Heater
Pin 8 – Cathode and Beam Plates

Characterisics And Typical Operation Class A1 Amplifier	
Ua (0)	300 V
Ug_2	200 V
$-Ug_1$ (approx)	12.5 V
R_L	4.5 kΩ
$\tilde{U}g_1$ (pk)	12.5 V
Ia (0)	48 mA
Ia (max . sig)	55 mA
Ig_2 (0)	2.5 mA
Ig_2 (max . sig)	4.7 mA
Gm	5.3 mA/V
ri	35 kΩ
Pout	6.5 W
Dtot	11%

Class A1 Amplifier, Triode Connection		
Ua, g_2 (0)	300 V	
-Ug_1 (approx)	20 V	
R_L	4 kΩ	
Õg_1 (pk)	20 V	
Ia+g_2	78 mA	
Ia+g_2 (max . sig)	85 mA	
Pout	1.8 W	
Dtot	5.5%	
Push-pull Class AB1 Amplifier, Triode Connection		
Ua . g_2 (0)	400 V	
-Ug_1 (approx)	45 V	
R_L	4 kΩ	
Õ (g_1—g_1 . pk)	90 V	
Ia+g_2	65 mA	
Ia+g_2 (max . sig)	130 mA	
Pout	13.3 W	
Dtot	4.4%	
Push-pull Class AB2 Amplifier, Pentode Connection		
Ua (0)	360	360 V
Ug_2	225	270 V
-Ug_1 (approx)	18	22.5 V
R_L	6	3.8 kΩ
Õ (g_1—g_1 . pk)	36.7	50.9 V
Ia (0)	78	88 mA
Ia (max . sig)	142	205 mA
Ig_2 (0)	3.5	5 mA
Ig_2 (max . sig)	11	16 mA
Pout	31	42 W
Dtot	2	2%


Ug2 = 300 V
250
200
150
100
50
Ia (mA)
250
200
150
100
50
0
100
200
300
400
500
600
Ua (V)


Ug1 = 15 V
10
5
0
-5
-10
-15
-20
-25
-30
-35
Pa = 23 W
RL = 2.5 kΩ
5881
UH = 6.3 V
Ug2 = 250 V
Ia (mA)
250
200
150
100
50
0
100
200
300
400
500
Ua (V)


200
150
100
50
0
Ia (mA)
100
200
300
400
500
600
Ua (V)
Ug1 = +15 V
+7.5
0
-7.5
-15
-22.5
-30
-37.5
-45
-52.5
-60
-67.5
-75
-82.5
-90