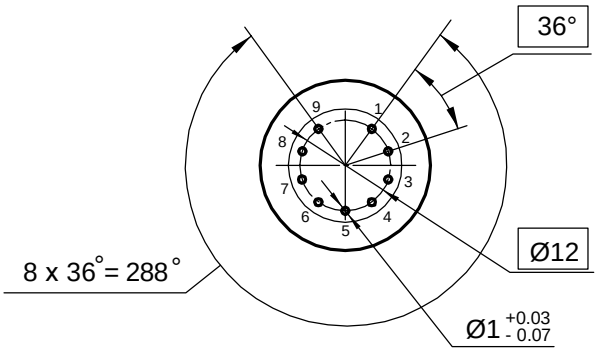
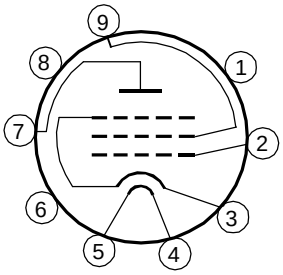
Vacuum tube EL84/6BQ5 is a miniature pentode with equipotential cathode, designed to amplify low frequency power in the output stages of HI-FI audio.

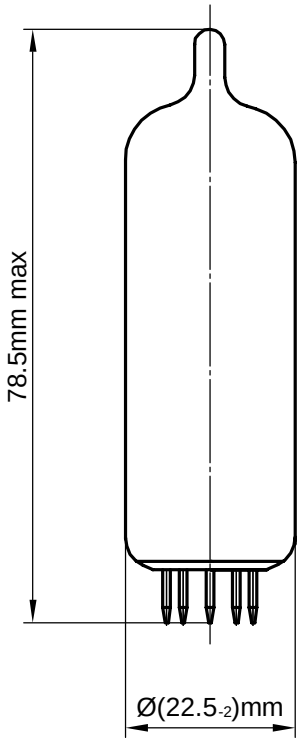
Pin arrangement



Electrode -to - lead connection diagram



Dimensions



Lead designation	Name of electrode
1, 6, 8	Free
2	Grid 1
3	Cathode, Grid 3
4, 5	Heater
7	Plate
9	Grid 2

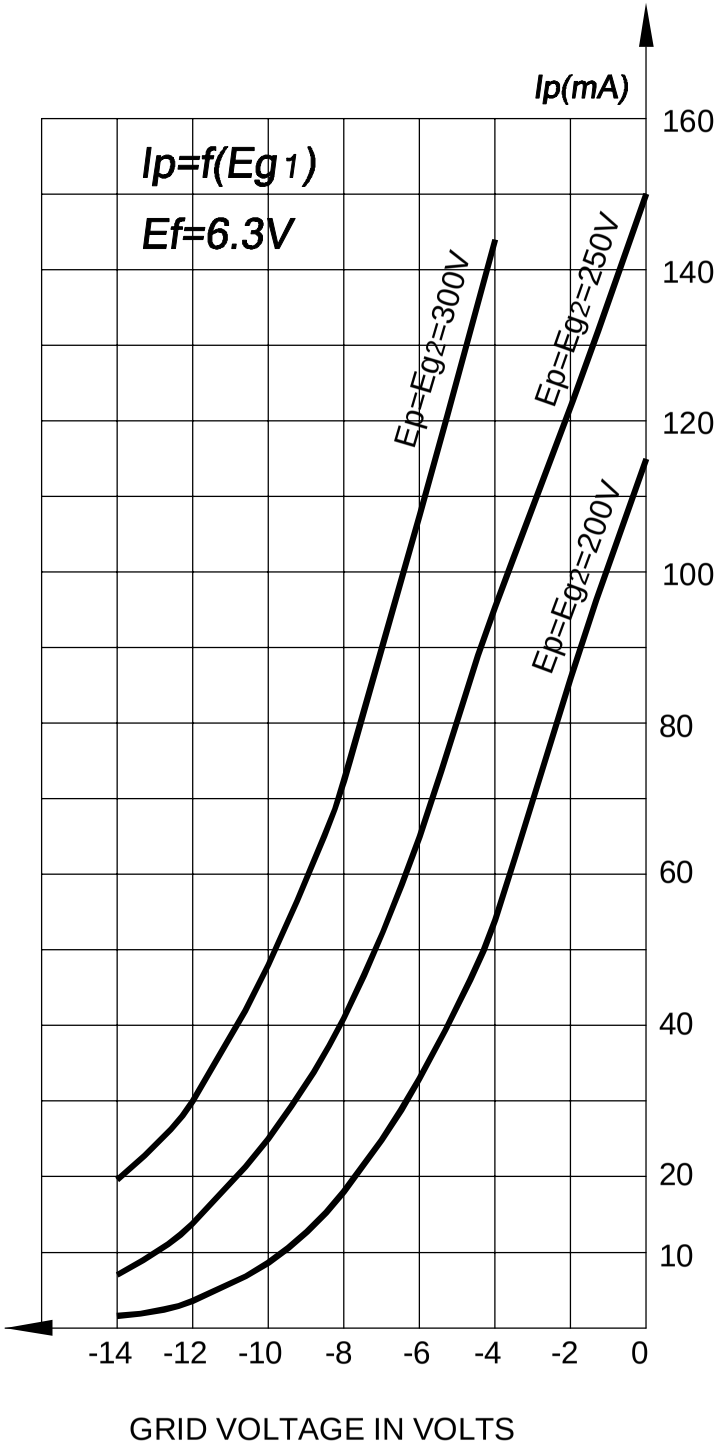
Electrical parameters

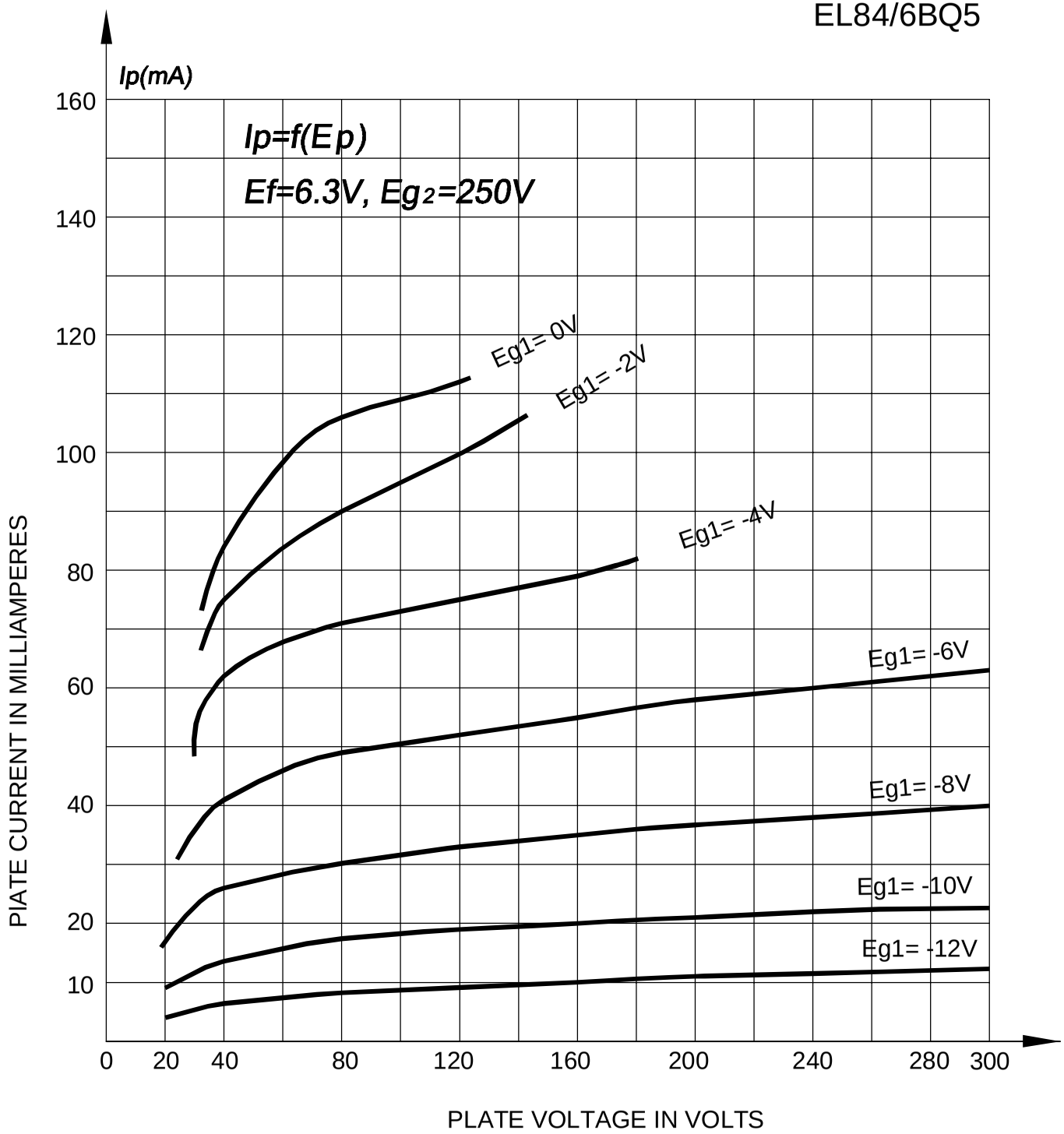
Parameters, conditions and units	Nominal	
	min	max
First grid reverse current, µA (at: filament voltage 6.3 V plate voltage 250 V,first grid voltage minus 7.3 V, second grid voltage 250 V,first grid circuit resistance 0.51MΩ)	—	1.0
Heater current, mA	700	840
Plate current, mA (at: filament voltage 6.3 V plate voltage 250 V,first grid voltage minus 7.3 V, second grid voltage 250 V)	30	60
Second grid current, mA (at: filament voltage 6.3 V plate voltage 250 V,first grid voltage minus 7.3 V, second grid voltage 250 V)	—	8.5
Output power, W (at: filament voltage 6.3 V, plate voltage 250 V, first grid voltage minus 7.3 V, second grid voltage 250 V, plate circuit resistance 5.2 kΩ alternating first grid, efficacious 5.2 V)	3.0	—
Output power at low voltage, W (at: filament voltage 5.7 V plate voltage 250 V, first grid voltage minus 7.3 V, second grid voltage 250 V, plate circuit resistance 5.2 k Ω first grid alternating voltage, efficacious 5.2 V)	2.0	—
Slope of characteristic, mA/V (at: filament voltage 6.3 V plate voltage 250 V, first grid voltage minus 7.3 V, second grid voltage 250 V)	9.0	—
Distortion factor,% (at: filament voltage 6.3 V, plate voltage 250 V, first grid voltage minus 7.3 V, second grid voltage 250 V, plate circuit resistance 5.2 kΩ alternating first grid, efficacious 5.2 V)	—	17
Cahtode - heater insulation resistance, MΩ (at: filament voltage 6.3 V cathode -heater voltage ± 100 V)	5.0	—

Limiting Values

Parameters, units	Nominal	
	min	max
Filament voltage, V	5.7	7.0
Plate voltage, V	—	300
Second grid voltage, V	—	300
Cathode - heater voltage, V	—	100
Cathode current, mA	—	65
Power dissipation at the plate, W	—	14
Power dissipation at the second grid, W	—	2.2
First grid circuit resistance, MΩ self - bias fixed bias	 — —	 1.0 0.51
Temperature at the most heated part of the envelope, K°	—	493

EL84/6BQ5


Ip(mA)
Ip=f(Eg1)
Ef=6.3V
Ep=Eg2=300V
Ep=Eg2=250V
Ep=Eg2=200V
160
140
120
100
80
60
40
20
10
-14
-12
-10
-8
-6
-4
-2
0
GRID VOLTAGE IN VOLTS


Ip(mA)
Ip=f(Ep)
Ef=6.3V, Eg2=250V
Eg1= 0V
Eg1= -2V
Eg1= -4V
Eg1= -6V
Eg1= -8V
Eg1= -10V
Eg1= -12V
160
140
120
100
80
60
40
20
10
PIATE CURRENT IN MILLIAMPERES
0
20
40
80
120
160
200
240
280
300
PLATE VOLTAGE IN VOLTS