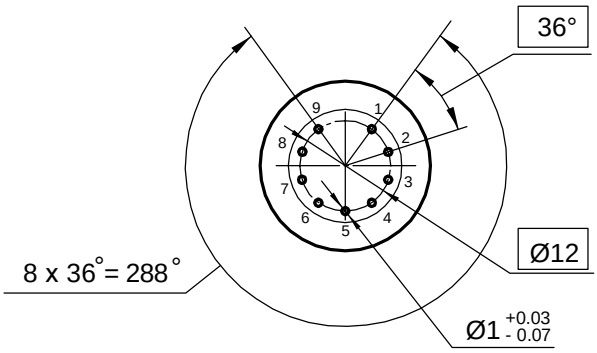
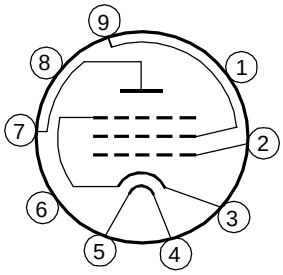
Vacuum tube EL84 Mullard is a miniature pentode with equipotential cathode, designed to amplify low frequency power in the output stages of HI-FI audio.

Pin arrangement



Electrode -to - lead connection diagram



Dimensions

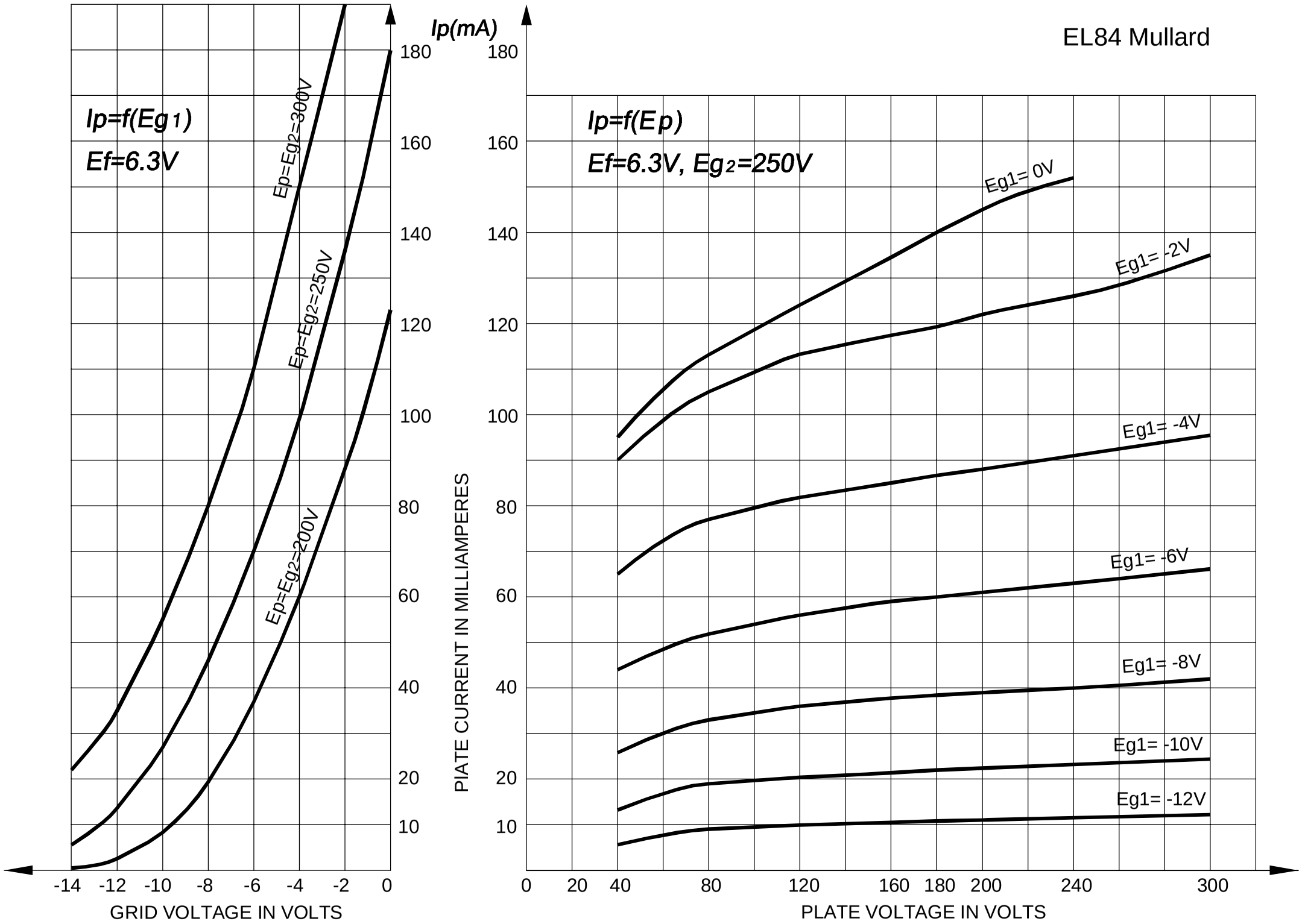
Lead designation	Name of electrode
1, 6, 8	Free
2	Grid 1
3	Cathode, Grid 3
4, 5	Heater
7	Plate
9	Grid 2

Electrical parameters EL84 Mullard

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)	48	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)	—	10
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)	5.5	—
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 kΩ first grid alternating voltage, efficacious 5.2 V)	5.0	—
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 Mullard
Ip(mA)
Ip=f(Eg1)
Ef=6.3V
Ep=Eg2=300V
Ep=Eg2=250V
Ep=Eg2=200V
180
160
140
120
100
80
60
40
20
10
-14 -12 -10 -8 -6 -4 -2 0
GRID VOLTAGE IN VOLTS
Ip=f(Ep)
Ef=6.3V, Eg2=250V
Eg1= 0V
Eg1= -2V
Eg1= -4V
Eg1= -6V
Eg1= -8V
Eg1= -10V
Eg1= -12V
PIATE CURRENT IN MILLIAMPERES
0 20 40 80 120 160 180 200 240 300
PLATE VOLTAGE IN VOLTS