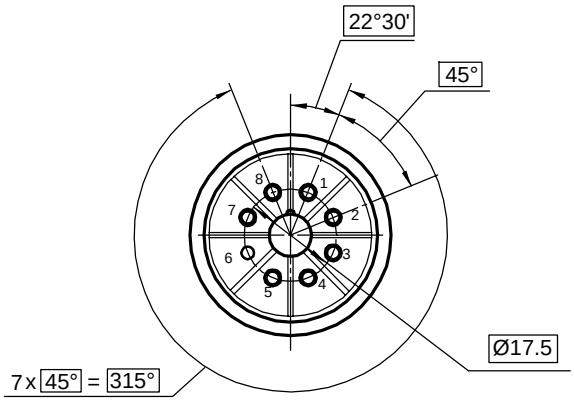
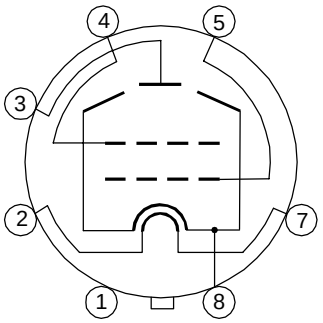
Vacuum tube KT90EH is a beam tetrode in the glass bulb with octal base, with equipotential cathode, designed to amplify low frequency power in the output stages of HI - FI audio.

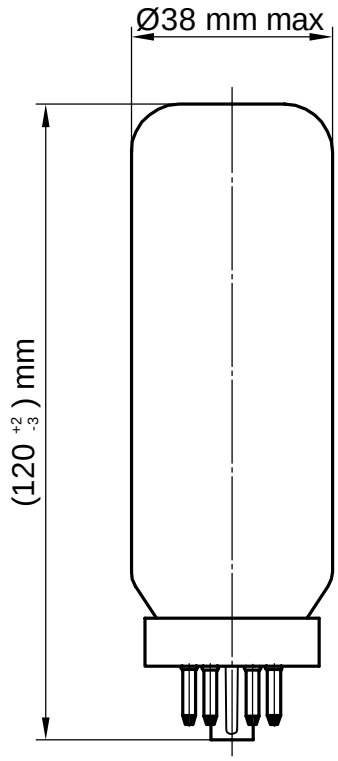
Pin arrangement



Electrode -to - lead connection diagram



Dimensions



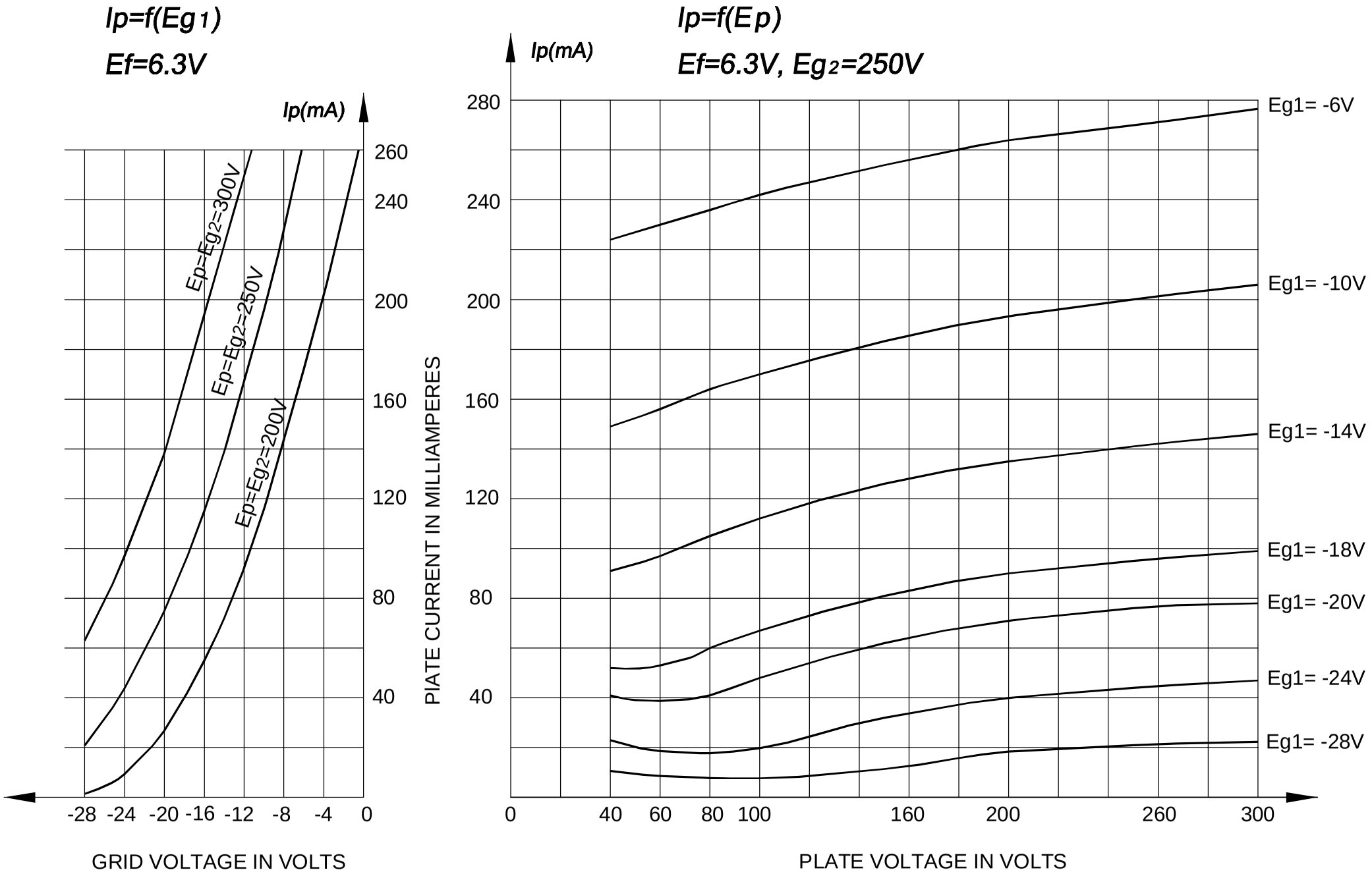
Lead designation	Name of electrode
1	Free
2, 7	Heater
3	Plate
4	Grid 2
5	Grid 1
6	No
8	Cathode, beam-forming screen

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 14.0 V, second grid voltage 250 V, first grid circuit resistance 0.51 MΩ)	—	0.5
Heater current, A	1.65	1.95
Plate current, mA (at: filament voltage 6.3 V, plate voltage 250 V, first grid voltage minus 14.0 V, second grid voltage 250 V)	115	165
Second grid current, mA (at: filament voltage 6.3 V, plate voltage 250 V, first grid voltage minus 14.0 V, second grid voltage 250 V)	—	23
Output power, W (at: filament voltage 6.3 V, plate voltage 250 V, first grid voltage minus 14.0 V, second grid voltage 250 V, plate circuit resistance 2.0 kΩ, first grid alternating voltage, efficacious 9.9 V)	12	—
First grid cut-off voltage, negative, V (at: filament voltage 6.3 V, plate voltage 250 V, second grid voltage 250 V)	—	50
Slope of characteristic, mA/V (at: filament voltage 6.3 V, anode voltage 250 V, first grid voltage minus 14.0 V, second grid voltage 250 V)	10.8	—
Distortion factor,% (at: filament voltage 6.3 V, plate voltage 250 V, first grid voltage minus 14.0 V, second grid voltage 250 V, plate circuit resistance 2.0 kΩ, first grid alternating voltage, efficacious 9.9 V)	—	14.0
Cahtode - heater insulation resistance, MΩ (at: filament voltage 6.3 V, cathode -heater voltage ± 300 V)	10	—

Operating conditions limits

Parameters, units	Nominal	
	min	max
Filament voltage, V	6.0	6.6
Cathode - heater voltage, V	—	± 300
Cathode current, mA	—	230
First grid voltage, negative, V	—	200
Power dissipation at the plate, W	—	46
Power dissipation at the second grin, W	—	8
First grid circuit resistance for each, MΩ fixed bias self - bias	 — —	 0.24 0.51


Ip=f(Eg1)
Ef=6.3V
Ip(mA)
260
240
200
160
120
80
40
Ep=Eg2=300V
Ep=Eg2=250V
Ep=Eg2=200V
-28 -24 -20 -16 -12 -8 -4 0
GRID VOLTAGE IN VOLTS
PIATE CURRENT IN MILLIAMPERES
Ip=f(Ep)
Ef=6.3V, Eg2=250V
Ip(mA)
280
240
200
160
120
80
40
Eg1= -6V
Eg1= -10V
Eg1= -14V
Eg1= -18V
Eg1= -20V
Eg1= -24V
Eg1= -28V
0 40 60 80 100 160 200 260 300
PLATE VOLTAGE IN VOLTS