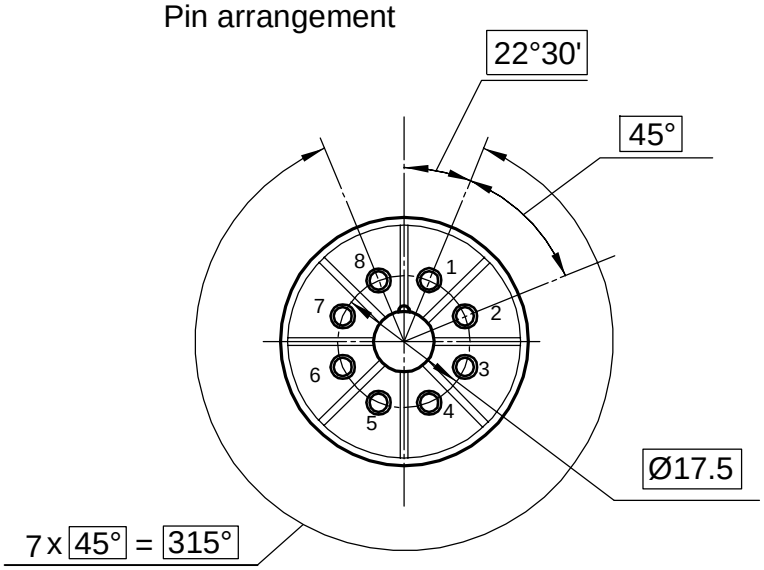
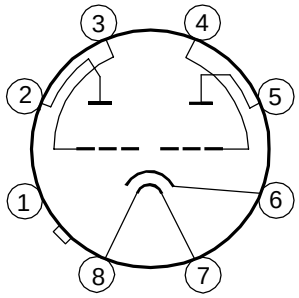
Vacuum tube 6SC7 is a twin triode with equipotential cathodes, designed to amplify low frequency voltage in radio engineering devices.

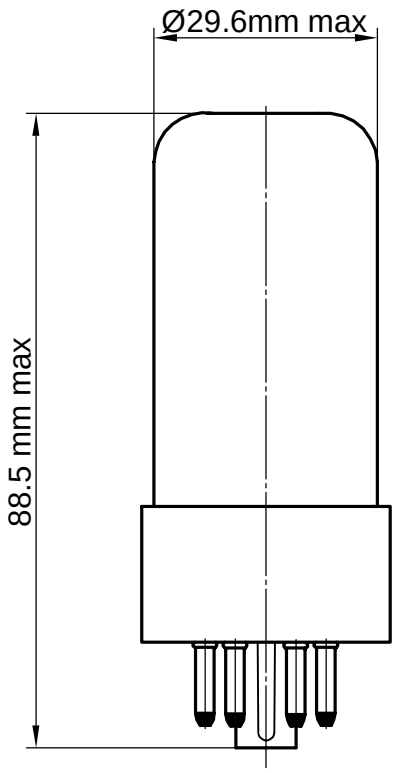
Pin arrangement



Electrode -to - lead connection diagram



Dimensions



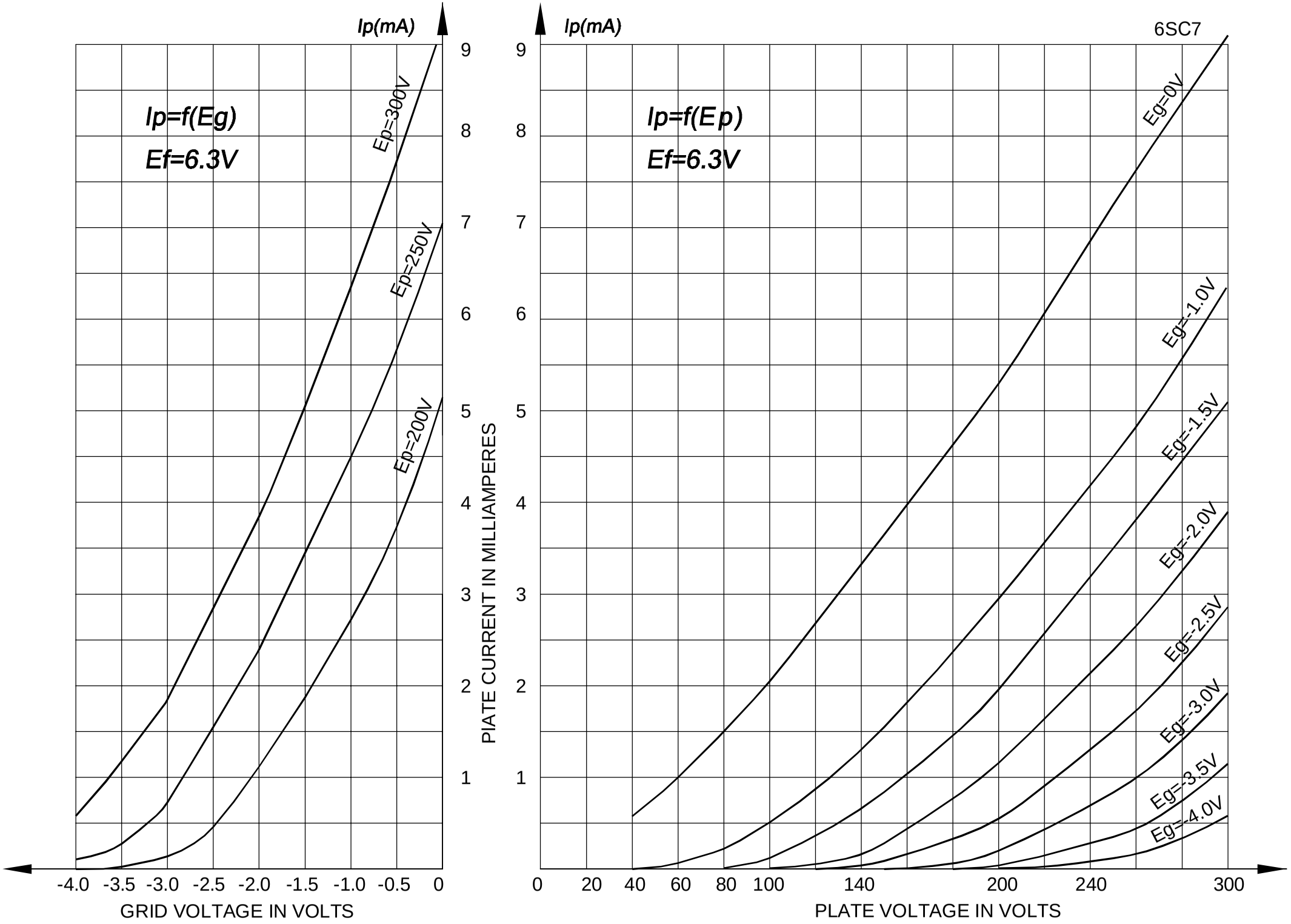
Lead designation	Name of electrode
1	Free
2	First triode plate
3	First triode grid
4	Second triode grid
5	Second triode plate
6	Cathode
7, 8	Heater

Electrical parameters

Parameters, conditions and units	Nominal	
	min	max
Heater current, mA at: filament voltage 6.3 V	400	450
Grid back current, µA, (at: filament voltage 6.3 V, plate voltage 250 V, grid voltage minus 2.0 V, resistance in grid circuit 1.0 MΩ)	—	0.5
Plate current, mA, (at: filament voltage 6.3 V, plate voltage 250 V, grid voltage minus 2.0 V)	1.2	3.8
Slope of characteristic, mA/V (at: filament voltage 6.3 V, plate voltage 250 V, grid voltage minus 2.0 V)	1.2	2.5
Amplification factor (at: filament voltage 6.3 V, plate voltage 250 V, grid voltage minus 2.0 V)	55	85
Plate current at the beginning of the characteristic, µA (at: filament voltage 6.3 V, plate voltage 250 V, grid voltage minus 12.0 V)	—	20
Cathode - heater insulation resistance, MΩ (at: filament voltage 6.3 V, cathode - heater voltage ± 200 V)	10	—

Limiting Values

Parameters, units	Nominal	
	min	max
Filament voltage, V	5.7	7.0
Plate voltage, V	—	300
Grid voltage, negative, V	—	50
Cathode - heater voltage, V	—	± 200
Cathode current, mA	—	10
Power dissipation at the plate of each triode, W	—	1.2
Grid circuit resistance for each of the triodes, MΩ fixed bias self - bias	 — —	 1.0 2.0
Temperature at the most heated part of the envelope, K°	—	363


6SC7
Ip(mA)
Ip=f(Eg)
Ef=6.3V
Ep=300V
Ep=250V
Ep=200V
-4.0 -3.5 -3.0 -2.5 -2.0 -1.5 -1.0 -0.5 0
GRID VOLTAGE IN VOLTS
Ip(mA)
Ip=f(Ep)
Ef=6.3V
Eg=0V
Eg=-1.0V
Eg=-1.5V
Eg=-2.0V
Eg=-2.5V
Eg=-3.0V
Eg=-3.5V
Eg=-4.0V
0 20 40 60 80 100 140 200 240 300
PLATE VOLTAGE IN VOLTS
PIATE CURRENT IN MILLIAMPERES
1 2 3 4 5 6 7 8 9