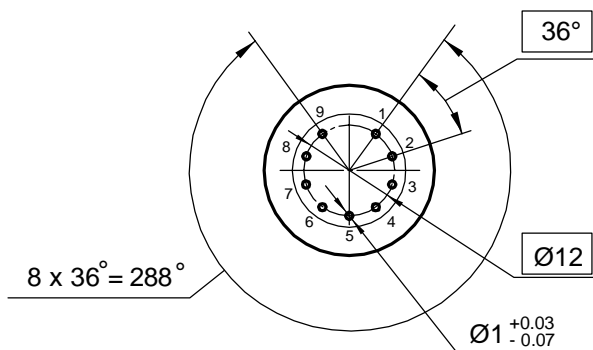
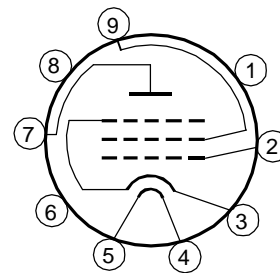


Vacuum tube 7189 Tung-Sol is a miniature pentode with equipotential cathode, designed to amplify low frequency power in the output stages of HI-FI audio.

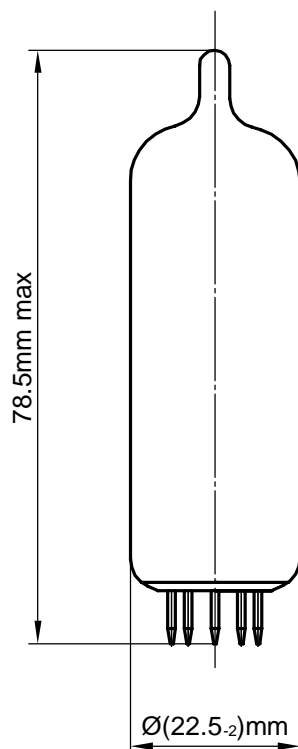
Pin arrangement



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

7189 Tung-Sol

Parameters, conditions and units	Nominal	
	min	max
First grid reverse current, $\mu\text{A}$ (at: filament voltage 6.3 V, plate voltage 250 V, first grid voltage minus 6.6 V, second grid voltage 250 V, first grid circuit resistance 0.51 M $\Omega$ )	—	1.0
Heater current, mA	700	840
Plate current, mA (at: filament voltage 6.3 V, plate voltage 250 V, first grid voltage minus 6.6 V, second grid voltage 250 V)	34	68
Second grid current, mA (at: filament voltage 6.3 V, plate voltage 250 V, first grid voltage minus 6.6 V, second grid voltage 250 V)	—	8.0
Output power, W (at: filament voltage 6.3 V, plate voltage 250 V, first grid voltage minus 6.6 V, second grid voltage 250 V, plate circuit resistance 5.2 k $\Omega$ alternating first grid, efficacious 3.4 V)	3.0	—
Output power at low voltage, W (at: filament voltage 5.7 V, plate voltage 250 V, first grid voltage minus 6.6 V, second grid voltage 250 V, plate circuit resistance 5.2 k $\Omega$ first grid alternating voltage, efficacious 3.4 V)	2.0	—
Slope of characteristic, mA/V (at: filament voltage 6.3 V, plate voltage 250 V, first grid voltage minus 6.6 V, second grid voltage 250 V)	9.0	—
Distortion factor, % (at: filament voltage 6.3 V, plate voltage 250 V, first grid voltage minus 6.6 V, second grid voltage 250 V, plate circuit resistance 5.2 k $\Omega$ alternating first grid, efficacious 3.4 V)	—	10
Cathode - heater insulation resistance, M $\Omega$ (at: filament voltage 6.3 V cathode -heater voltage $\pm$ 100 V)	5.0	—

## Limiting Values

Parameters, units	Nominal	
	min	max
Filament voltage, V	5.7	7.0
Plate voltage, V	—	400
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, M $\Omega$		
self - bias	—	1.0
fixed bias	—	0.51
Temperature at the most heated part of the envelope, K°	—	493

