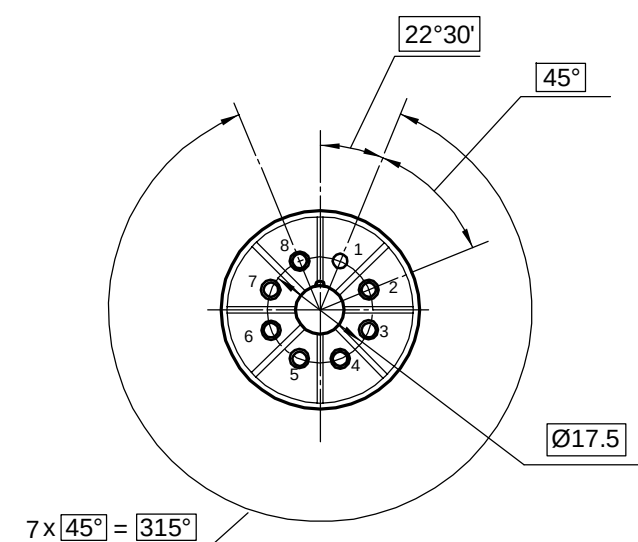
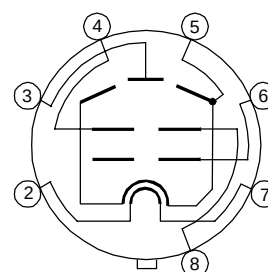


Vacuum tube 7591A Tung - Sol is a beam tetrode in the glass bulb with octal base, with equipotential cathode, designed to amplify low frequency power in the output stages of HI - FI audio.

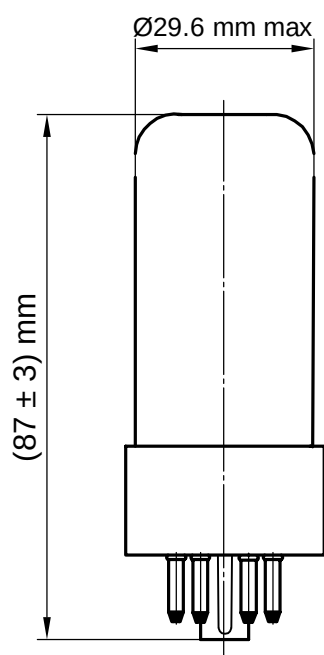
Pin arrangement



Electrode -to - lead connection diagram



Dimensions



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

# Electrical parameters

7591A Tung - Sol

| Parameters, conditions and units                                                                                                                                                                                                               | Nominal |      |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|------|
|                                                                                                                                                                                                                                                | min     | max  |
| First grid reverse current, $\mu\text{A}$ (at: filament voltage 6.3 V, plate voltage 300 V, first grid voltage minus 10.0 V, second grid voltage 300 V, first grid circuit resistance 0.3M $\Omega$ )                                          | —       | 0.7  |
| Heater current, A                                                                                                                                                                                                                              | 0.7     | 0.9  |
| Plate current, mA (at: filament voltage 6.3 V, plate voltage 300 V, first grid voltage minus 10.0 V, second grid voltage 300 V)                                                                                                                | 50      | 80   |
| Second grid current, mA (at: filament voltage 6.3 V, plate voltage 300 V, first grid voltage minus 10.0 V, second grid voltage 300 V)                                                                                                          | —       | 10   |
| Output power, W (at: filament voltage 6.3 V, plate voltage 300 V, first grid voltage minus 10.0 V, second grid voltage 300 V, plate circuit resistance 3.0 k $\Omega$ first grid alternating voltage, efficacious 7.1 V)                       | 7.0     | —    |
| First grid cut-off voltage, negative, V (at: filament voltage 6.3 V, plate voltage 300 V, second grid voltage 300 V, )                                                                                                                         | —       | 38   |
| Slope of characteristic, mA/V (at: filament voltage 6.3 V, anode voltage 300 V, first grid voltage minus 10.0 V, second grid voltage 300 V)                                                                                                    | 8.4     | 11.4 |
| <b>Distortion factor, % (at: filament voltage 6.3 V, plate voltage 300 V, first grid voltage minus 10 V, second grid voltage 300 V, plate circuit resistance 3.0 k <math>\Omega</math>, first grid alternating voltage, efficacious 7.1 V)</b> | —       | 17.0 |
| Cahtode - heater insulation resistance, M $\Omega$ (at: filament voltage 6.3 V, cathode -heater voltage $\pm 200$ V)                                                                                                                           | 6.6     | —    |

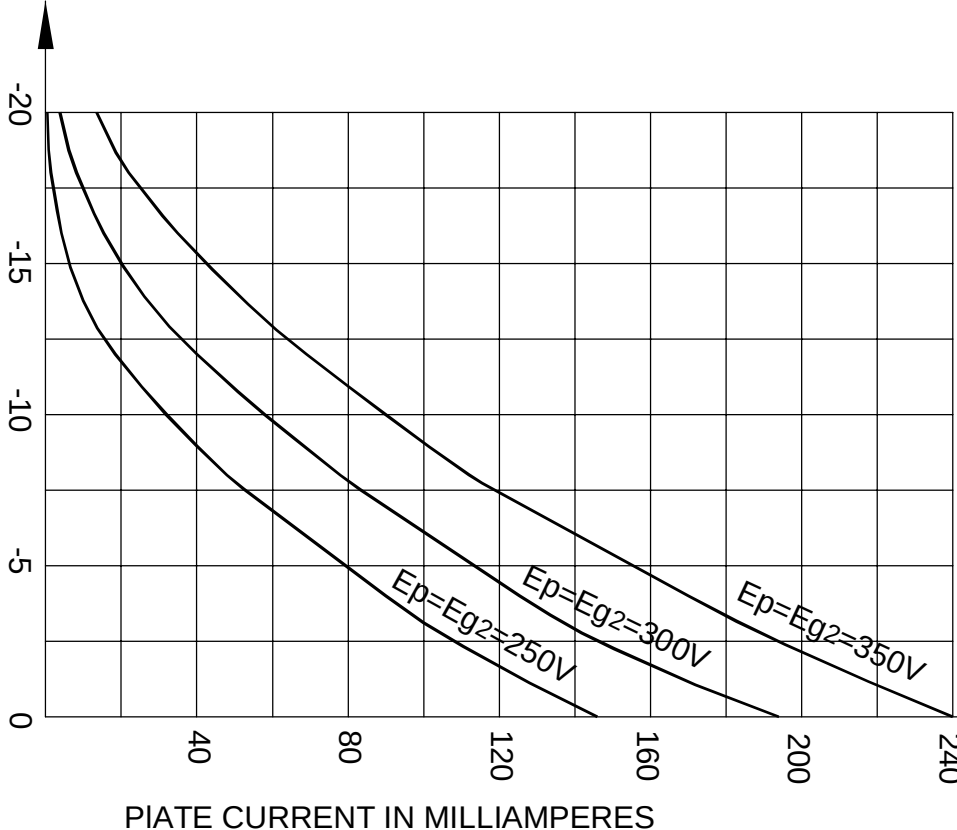
## Operating conditions limits.

| Parameters, units                                       | Nominal |           |
|---------------------------------------------------------|---------|-----------|
|                                                         | min     | max       |
| Filament voltage, V                                     | 5.7     | 7.0       |
| Cathode - heater voltage, V                             | —       | $\pm 200$ |
| Cathode current, mA                                     | —       | 90        |
| Power dissipation at the plate, W                       | —       | 19        |
| Power dissipation at the second grid, W                 | —       | 3.3       |
| First grid circuit resistance ,M $\Omega$               |         |           |
| fixed bias                                              | —       | 0.3       |
| self - bias                                             | —       | 1.0       |
| Temperature at the most heated part of the envelope, K° | —       | 513       |

$I_p=f(E_{g1})$

$E_f=6.3V$

$I_p(mA)$



GRID VOLTAGE IN VOLTS

$I_p=f(E_p)$

$E_f=6.3V, E_{g2}=300V$

$I_p(mA)$

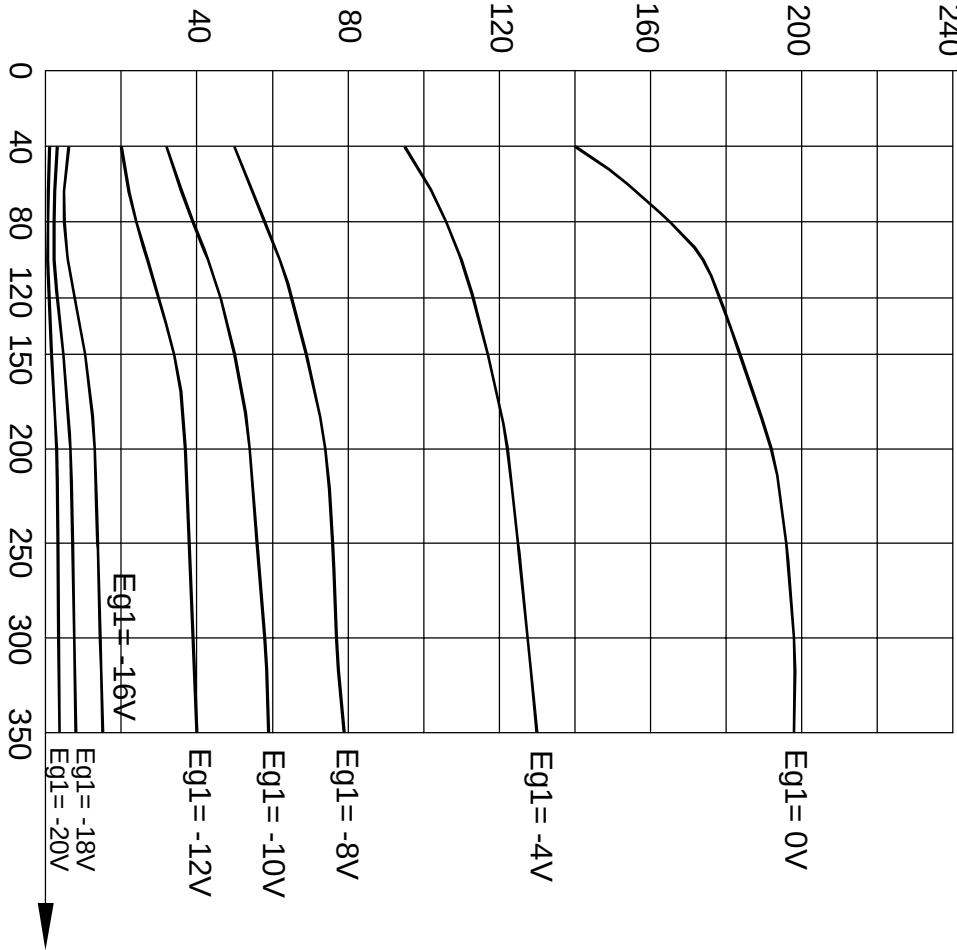


PLATE VOLTAGE IN VOLTS