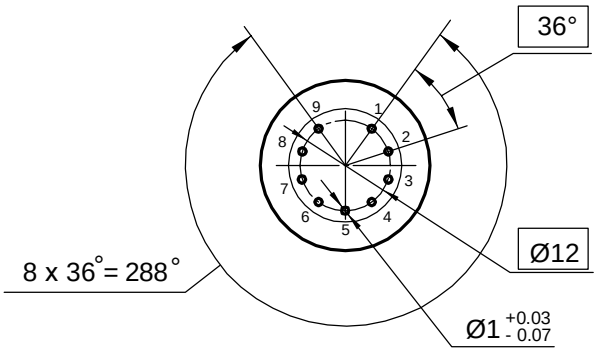
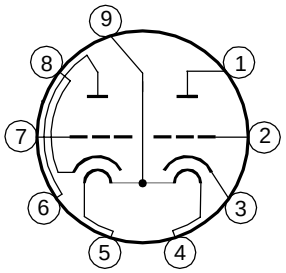
# 12AT7 Genalex/ ECC81/B739

Vacuum tube 12AT7 Genalex/ECC81/B739 is a miniature twin triode with equipotential cathodes, designed to amplify low frequency voltage in radio engineering devices.

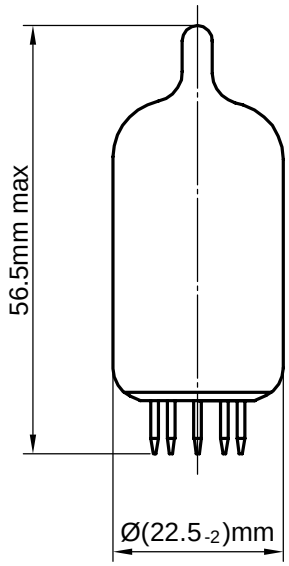
Pin arrangement




Electrode -to - lead connection diagram



Dimensions




| Lead designation | Name of electrode |
|---|---|
| 1 | Second triode plate |
| 2 | Second triode grid |
| 3 | Second triode cathode |
| 4,5,9 | Heater |
| 6 | First triode plate |
| 7 | First triode grid |
| 8 | First triode cathode |

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# Electrical parameters

| Parameters, conditions and units | Nominal | |
|---|---|---|
| | min | max |
| Heater current,mA<br>at: filament voltage 6.3 V<br>at: filament voltage 12.6 V | <br>350<br>175 | <br>390<br>195 |
| Grid back current, µA, ( at: filament voltage 6.3 V or 12.6 V, plate voltage 250 V, grid voltage minus 2.0 V, resistance in grid circuit 0.25 MΩ ) | — | 0.5 |
| Plate current, mA, ( at: filament voltage 6.3 V or 12.6 V, plate voltage 250 V, grid voltage minus 2.0 V) | 9.0 | 12.0 |
| First and second triodes plate current difference, % ( at: filament voltage 6.3 V or 12.6 V, plate voltage 250 V, grid voltage minus 2.0 V) | — | ± 40 |
| Slope of characteristic, mA/V ( at: filament voltage 6.3 V or 12.6 V, plate voltage 250 V, grid voltage minus 2.0 V) | 4.5 | 6.5 |
| Amplification factor ( at: filament voltage 6.3 V or 12.6 V, plate voltage 250 V, grid voltage minus 2.0 V) | 45 | — |
| Cathode - heater insulation resistance, MΩ ( at: filament voltage 6.3 V or 12.6 V, cathode - heater voltage ± 200 V) | 20 | — |
| Plate current at the beginning of the characteristic, µA ( at: filament voltage 6.3 V or 12.6 V, plate voltage 250 V, grid voltage minus 12.0 V) | — | 30 |

# Limiting Values

| Parameters, units | Nominal | |
|---|---|---|
| | min | max |
| Filament voltage, V<br>for parallel connection<br>for series connection | <br>6<br>12 | <br>6.6<br>13.2 |
| Plate voltage, V | — | 330 |
| Cathode - heater voltage, V | — | ± 200 |
| Power dissipation at the plate of each triode, W | — | 3.25 |
| Cathode current, mA | — | 18 |
| Grid circuit resistance for each of the triodes, MΩ<br>fixed bias<br>self - bias | <br>—<br>— | <br>0.25<br>1.0 |

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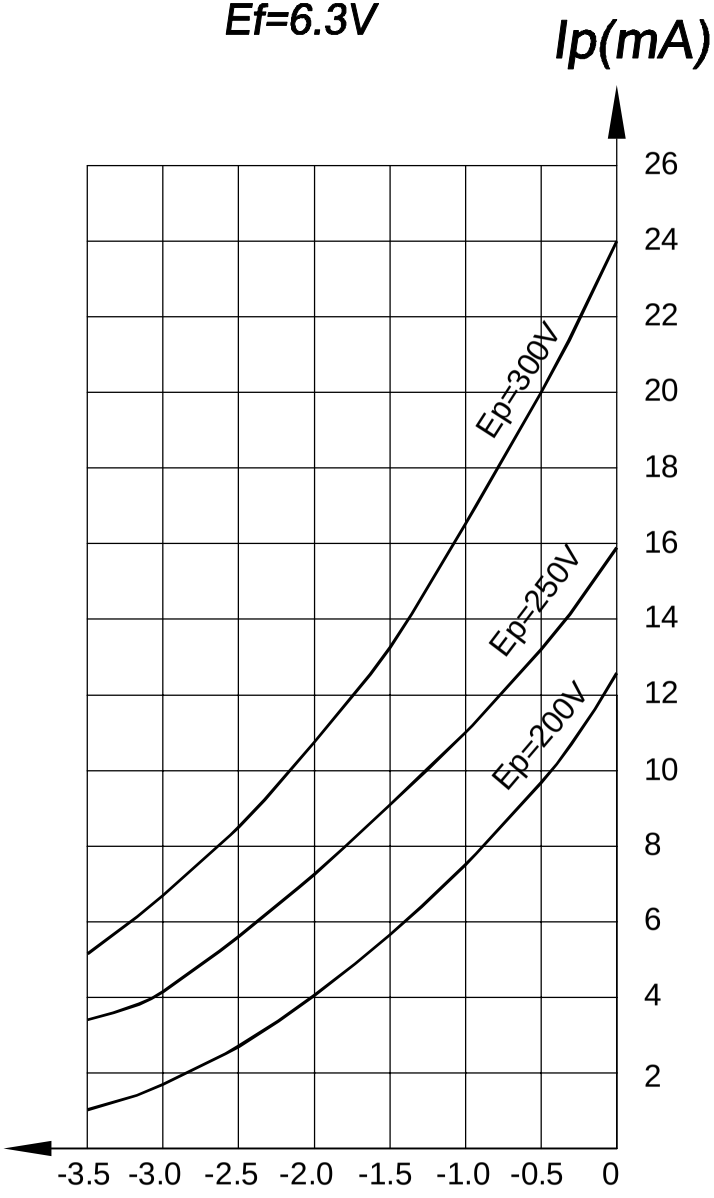
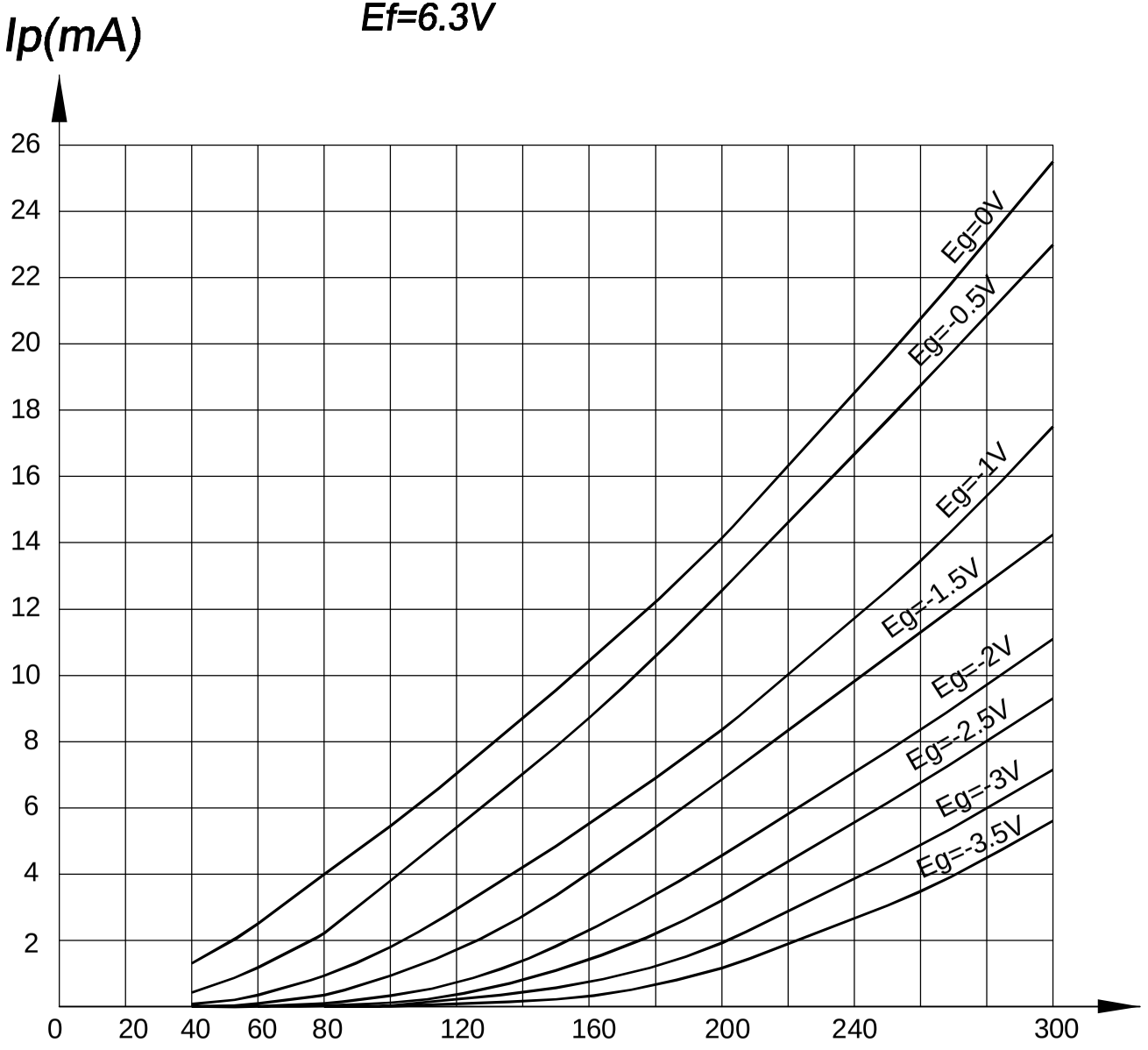
*Ip=f(Eg)*

*Ef=6.3V*




PIATE CURRENT IN MILLIAMPERES

*Ip=f(Ep)*

*Ef=6.3V*