PHILIPS

OUTPUT PENTODE

Physical Specifications

Filament
Base
Bulb
Maximum overall length
Maximum seated height
Bulb length excluding tip
Maximum diameter
Mounting position
Basing connections - JETEC

Coated
Miniature button 7-pin
T5½
2.205"
1.955"
1.580" ± 0.094"
3/4"
any
basing designation

6BX

Pin 1 - filament (+)
Pin 2 - plate
Pin 3 - grid No.2
Pin 4 - not connected
Pin 5 - grid No.3 and filament centre tap (-)
Pin 6 - grid No.1
Pin 7 - filament (+)

Bottom view of base

Tube outline

Filament data

Pins No.5 (-) and (1+7) (+)
Filament voltage
Filament current

1.4 volts
50 ma

Direct Inter-electrode Capacitances

Plate to all other electrodes
Grid No.1 to all other electrodes
Grid No.1 to plate

4.4 µF
4.9 µF
max. 0.3 µF

8.8.1951

N.V. PHILIPS' GLOEILAMPENFABRIKEN, Eindhoven, Holland.
### Ratings (Design center values)
- **Battery voltage**: max. 90 volts \(^1\)
- **Plate voltage**: max. 90 volts
- **Plate dissipation**: max. 0.6 watt
- **Grid No.2 voltage**: max. 90 volts
- **Grid No.2 dissipation**: max. 0.2 watt
- **Cathode current (without input signal)**: max. 2x3.1 ma
- **Grid current starting point. Grid No.1 voltage when grid No.1 current** = +0.3 \(\mu\) amp: max. -0.2 volt
- **Grid No.1 circuit resistance**: 2 megohms
- **Filament voltage**: min. 1.1 volts, max. 1.6 volts

### Operating Characteristics
- **Plate voltage**: 64 \(\rightarrow\) 85 volts
- **Grid No.2 voltage**: 64 \(\rightarrow\) 85 volts
- **Grid No.1 voltage**: -3.3 \(\rightarrow\) -5.2 volts
- **Plate current**: 3.5 \(\rightarrow\) 5.0 ma
- **Grid No.2 current**: 0.75 \(\rightarrow\) 1.1 ma
- **Transconductance**: 1250 \(\rightarrow\) 1350 micromhos
- **Plate resistance**: 0.125 \(\rightarrow\) 0.125 megohm
- **Amplification factor of grid No.2 with respect to grid No.1**: 7.6 \(\rightarrow\) 7.8
- **Load resistance**: 15 000 \(\rightarrow\) 13 000 ohms
- **Output at a distortion of 10%**: 100 \(\rightarrow\) 200 milliwatts
- **Grid No.1 A.C. voltage at a distortion of 10%**: 3 \(\rightarrow\) 4 volts, rms
- **Grid No.1 A.C. voltage at an output of 50 m watts**: 1.7 \(\rightarrow\) 1.5 volts, rms

\(^1\) The absolute permissible maximum of the battery voltage is 110 volts.

\(^2\) Based on a supply voltage of 67.5 or 90 volts decreased with the negative bias.

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N.V. PHILIPS' GLOEILAMPENFABRIKEN, Eindhoven, Holland.
Plate voltage = 6.4 volts
Grid No. 2 voltage = 6.4 volts
Load resistance = 5000 ohms

Grid No. 1 AC voltage (volts RMS)

Grid No. 2 current
Plate current
Grid No. 1 current

Output power (milliwatts)
Currents (milli-amps)
Distortion (percent)
Plate voltage = 85 volts
Grid No. 2 voltage = 85 volts
Load resistance = 13,000 ohms

Plate current

Grid No. 1 A.C. voltage
Grid No. 1 A.C. current
Distortion
Grid No. 2 current

Output power (milli-watts)