



## ELECTRONIC TUBE REFERENCE

## AL2

Power - Pentode Single (NOT beam) (under 10W) electronic tube

CONSOLIDATED TECHNICAL  
DATA

**1 SECTION**  
CONSTRUCTION  
**PENTODE**

Four-volt indirectly heated power pentode with published output operating characteristics. Designed for conventional receiver audio power amplification using a heater-cathode construction.

## GENERAL CHARACTERISTICS

|                     |                   |                      |               |
|---------------------|-------------------|----------------------|---------------|
| BASE DESIGNATION    | P35               | BASE PINS            | 8             |
| NOMINAL HEATER      | 4 V / 1 A         | PARALLEL HEATER      | – / –         |
| HEATING             | Indirect          | SERIES OPERATION     | Not specified |
| CATHODE ARRANGEMENT | Separate cathodes | SECTION CONSTRUCTION | Similar       |

## SECTION RATINGS

|                                                                                                           |                |
|-----------------------------------------------------------------------------------------------------------|----------------|
| <b>SECTION1</b> Pentode                                                                                   |                |
| PLATE RESISTANCE                                                                                          | 60000 $\Omega$ |
| TRANSCONDUCTANCE                                                                                          | 0.0025 S       |
| MAXIMUM PLATE VOLTAGE                                                                                     | 250 V          |
| MAXIMUM SCREEN VOLTAGE                                                                                    | 250 V          |
| MAXIMUM PLATE DISSIPATION                                                                                 | 9 W            |
| MAXIMUM SCREEN DISSIPATION                                                                                | 1.5 W          |
| MAXIMUM CATHODE CURRENT                                                                                   | 50 mA          |
| <i>Audio output pentode; maximum ratings and a representative published operating point are promoted.</i> |                |

4 V indirectly heated power pentode. Electrical ratings and operating characteristics were extracted from the supplied 4-volt valve data table, including the published heater data and available section-level values.

## SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

# 1938 Philips Miniwatt Vacuum Tube Catalog

Published test conditions and operating points. Values on this page are preserved as reported by this source.

## 1938 PHILIPS MINIWATT VACUUM TUBE CATALOG

## Section 1 · Pentode

| OTHER                     |                 |                  |
|---------------------------|-----------------|------------------|
| PARAMETER                 | PUBLISHED VALUE | CONDITION / NOTE |
| Plate voltage             | 250 V           | —                |
| Plate current             | 36 mA           | —                |
| Screen voltage            | 250 V           | —                |
| Screen current            | 4 mA            | —                |
| Optimum load resistance   | 7000 ohm        | —                |
| Power output              | 3.8 W           | —                |
| Grid AC input voltage     | 14 V RMS        | —                |
| Maximum anode dissipation | 9 W             | —                |
| Push-pull plate current   | 66 mA           | PushPull         |
| Push-pull screen current  | 7 mA            | PushPull         |
| Push-pull load resistance | 6600 ohm        | PushPull         |
| Push-pull power output    | 11.5 W          | PushPull         |

| CHARACTERISTICS  |                 |                  |
|------------------|-----------------|------------------|
| PARAMETER        | PUBLISHED VALUE | CONDITION / NOTE |
| Transconductance | 2600 $\mu$ S    | —                |
| Plate resistance | 60000 ohm       | —                |

# 195X Tunsgram

Published test conditions and operating points. Values on this page are preserved as reported by this source.

195X TUNSGRAM  
Section 1 · Pentode

| OTHER                        |                 |                                        |
|------------------------------|-----------------|----------------------------------------|
| PARAMETER                    | PUBLISHED VALUE | CONDITION / NOTE                       |
| Typical plate voltage        | 250 V           | —                                      |
| Typical screen voltage       | 250 V           | —                                      |
| Typical plate current        | 36 mA           | —                                      |
| Typical control-grid voltage | -25 V           | —                                      |
| Output power                 | 3.8 W           | Single-ended published operating point |
| Load resistance              | 7000 Ohm        | Single-ended published operating point |



SOURCE DATA APPENDIX

# 1999 Philips 0-D

Published test conditions and operating points. Values on this page are preserved as reported by this source.

1999 PHILIPS 0-D  
Section 1 · Pentode

| CHARACTERISTICS  |                 |                  |
|------------------|-----------------|------------------|
| PARAMETER        | PUBLISHED VALUE | CONDITION / NOTE |
| Heater voltage   | 4 V             | —                |
| Heater current   | 1 A             | —                |
| Transconductance | 2600 uS         | —                |
| Plate resistance | 60000 ohm       | —                |

| OTHER          |                 |                  |
|----------------|-----------------|------------------|
| PARAMETER      | PUBLISHED VALUE | CONDITION / NOTE |
| Plate voltage  | 250 V           | ClassA           |
| Screen voltage | 250 V           | ClassA           |
|                |                 |                  |

| PARAMETER       | PUBLISHED VALUE | CONDITION / NOTE |
|-----------------|-----------------|------------------|
| Grid voltage    | -25 V           | ClassA           |
| Plate current   | 36 mA           | ClassA           |
| Screen current  | 5 mA            | ClassA           |
| Output power    | 3.8 W           | ClassA           |
| Load resistance | 7000 ohm        | ClassA           |