

Directly heated battery octode for superheterodyne frequency conversion. Its multi-grid structure combines oscillator-assisted mixing with very high plate resistance, while the low-current filament minimizes consumption in portable receivers.

### GENERAL CHARACTERISTICS

|                     |                   |                      |               |
|---------------------|-------------------|----------------------|---------------|
| BASE DESIGNATION    | P35(37)           | BASE PINS            | –             |
| NOMINAL HEATER      | 2 V / 130 mA      | PARALLEL HEATER      | – / –         |
| HEATING             | Direct            | SERIES OPERATION     | Not specified |
| CATHODE ARRANGEMENT | Separate cathodes | SECTION CONSTRUCTION | Similar       |

### SECTION RATINGS

|                                                                                                                                                                                             |           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| SECTION1 Octode                                                                                                                                                                             |           |
| PLATE RESISTANCE                                                                                                                                                                            | 2500000 Ω |
| TRANSCONDUCTANCE                                                                                                                                                                            | 0.00027 S |
| Promoted only where a fixed schema field matched the source semantics; all other published operating, capacitance, CRT, converter, and output data are preserved in TUBE_SECTION_PARAMETER. |           |

Directly heated battery octode for frequency-conversion service in low-filament-current receivers.

## 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 · Octode

| OTHER                    |                 |                                      |
|--------------------------|-----------------|--------------------------------------|
| PARAMETER                | PUBLISHED VALUE | CONDITION / NOTE                     |
| Anode voltage            | 135 V           | Converter;OperatingPoint1            |
| Anode current            | 0.7 mA          | Converter;OperatingPoint1            |
| Control-grid voltage     | 0 V             | Converter;OperatingPoint1            |
| Screen-grid voltage      | 135 V           | Converter;OperatingPoint1            |
| Screen-grid current      | 2.1 mA          | Converter;OperatingPoint1            |
| Voltage on grids 3 and 5 | 45 V            | Converter;OperatingPoint1            |
| Grid-4 voltage           | -0.5 V          | Converter;OperatingPoint1            |
| Grid-4 voltage           | -12 V           | Converter;Suppressed;OperatingPoint1 |
| Anode voltage            | 90 V            | Converter;OperatingPoint2            |
| Anode current            | 0.7 mA          | Converter;OperatingPoint2            |
| Control-grid voltage     | 0 V             | Converter;OperatingPoint2            |
| Screen-grid voltage      | 90 V            | Converter;OperatingPoint2            |
| Screen-grid current      | 1.3 mA          | Converter;OperatingPoint2            |
| Voltage on grids 3 and 5 | 45 V            | Converter;OperatingPoint2            |
| Grid-4 voltage           | -0.5 V          | Converter;OperatingPoint2            |
| Grid-4 voltage           | -12 V           | Converter;Suppressed;OperatingPoint2 |
| Anode voltage            | 135 V           | Converter;OscillatingCondition       |
| Anode current            | 1 mA            | Converter;OscillatingCondition       |
| Control-grid voltage     | 0 V             | Converter;OscillatingCondition       |
| Screen-grid voltage      | 135 V           | Converter;OscillatingCondition       |
| Screen-grid current      | 2.3 mA          | Converter;OscillatingCondition       |

| PARAMETER                | PUBLISHED VALUE | CONDITION / NOTE               |
|--------------------------|-----------------|--------------------------------|
| Voltage on grids 3 and 5 | 60 V            | Converter;OscillatingCondition |
| Grid-4 voltage           | -1.5 V          | Converter;OscillatingCondition |

| CHARACTERISTIC                                      |                   |                                      |
|-----------------------------------------------------|-------------------|--------------------------------------|
| PARAMETER                                           | PUBLISHED VALUE   | CONDITION / NOTE                     |
| Mutual conductance                                  | 270 $\mu$ S       | Converter;OperatingPoint1            |
| Internal resistance                                 | 2500000 $\Omega$  | Converter;OperatingPoint1            |
| Anode current maximum in suppressed condition       | 0.015 mA          | Converter;Grid4=-12V;OperatingPoint1 |
| Mutual conductance maximum in suppressed condition  | 2 $\mu$ S         | Converter;Grid4=-12V;OperatingPoint1 |
| Internal resistance minimum in suppressed condition | 10000000 $\Omega$ | Converter;Grid4=-12V;OperatingPoint1 |
| Mutual conductance                                  | 270 $\mu$ S       | Converter;OperatingPoint2            |
| Internal resistance                                 | 2000000 $\Omega$  | Converter;OperatingPoint2            |
| Anode current maximum in suppressed condition       | 0.015 mA          | Converter;Grid4=-12V;OperatingPoint2 |
| Mutual conductance maximum in suppressed condition  | 2 $\mu$ S         | Converter;Grid4=-12V;OperatingPoint2 |
| Internal resistance minimum in suppressed condition | 10000000 $\Omega$ | Converter;Grid4=-12V;OperatingPoint2 |
| Mutual conductance                                  | 270 $\mu$ S       | Converter;OscillatingCondition       |
| Internal resistance                                 | 1700000 $\Omega$  | Converter;OscillatingCondition       |

| CAPACITANCE                    |                 |                  |
|--------------------------------|-----------------|------------------|
| PARAMETER                      | PUBLISHED VALUE | CONDITION / NOTE |
| Grid-anode capacitance maximum | 0.07 pF         | Section1         |



#### SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

# 1999 Philips E-Z

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

## Section 1 · Octode

| CHARACTERISTIC                        |                 |                  |
|---------------------------------------|-----------------|------------------|
| PARAMETER                             | PUBLISHED VALUE | CONDITION / NOTE |
| Chauffage: direct par batterie; $v_f$ | 2 V             | —                |
| alimentation en parallèle $I_f$       | 130 mA          | —                |
| Nbs 1 = +97" (                        | 44 A            | —                |

| CAPACITANCE     |                 |                  |
|-----------------|-----------------|------------------|
| PARAMETER       | PUBLISHED VALUE | CONDITION / NOTE |
| Kapazitäten Cel | 6.4 pF          | —                |
| Cg2             | 8 pF            | —                |
| Cags <          | 0.07 pF         | —                |
| Cglgd <         | 0.2 pF          | —                |
| Cg2g4 <         | 0.4 pF          | —                |

| OTHER              |                 |                  |
|--------------------|-----------------|------------------|
| PARAMETER          | PUBLISHED VALUE | CONDITION / NOTE |
| $V_a = 90$         | 1395 V          | —                |
| Vg2                | 90 V            | —                |
| $v_{g3+g4} = 45$   | 45 V            | —                |
| $v_a$              | 135 V           | —                |
| Vg2                | 135 V           | —                |
| Vg1g5              | 60 V            | —                |
| $S_e = 300$        | 3 pA            | —                |
| $W_a = \max$       | 0.5 W           | —                |
| $v_{ge} = \max$    | 135 V           | —                |
| $W_{ge} = \max$    | 0.6 W           | —                |
| $V_{g3+g4} = \max$ | 100 V           | —                |
| $w_{g1+g5} = \max$ | 0.4 W           | —                |
| $I_k = \max$       | 10 mA           | —                |
| Vg ( $I_{g4}$ [1]) | 0.3 $\mu$ A     | —                |
| Vg ( $I_{g4}$ [2]) | 0.2 V           | —                |



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