

ELECTRONIC TUBE REFERENCE

KL4

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

CONSOLIDATED TECHNICAL DATA

1 SECTION
CONSTRUCTION
PENTODE

Low-filament-current directly heated power pentode for Class A audio output in battery receivers.

GENERAL CHARACTERISTICS

BASE DESIGNATION	P35(30)	BASE PINS	—
NOMINAL HEATER	2 V / 140 mA	PARALLEL HEATER	— / —
HEATING	Direct	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION1 Pentode	
PLATE RESISTANCE	150000 Ω
TRANSCONDUCTANCE	0.0021 S
MAXIMUM PLATE VOLTAGE	135 V
MAXIMUM SCREEN VOLTAGE	135 V
MAXIMUM PLATE DISSIPATION	1 W
MAXIMUM SCREEN DISSIPATION	0.3 W
MAXIMUM CATHODE CURRENT	10 mA
<i>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.</i>	

Directly heated low-filament-current power pentode for Class-A audio output service.

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
Anode voltage	135 V	ClassA;OperatingPoint1
Anode current	6.5 mA	ClassA;OperatingPoint1
Control-grid voltage	-5 V	ClassA;OperatingPoint1
Screen-grid voltage	135 V	ClassA;OperatingPoint1
Screen-grid current	1 mA	ClassA;OperatingPoint1
Optimum matching impedance	19000 Ω	ClassA;OperatingPoint1
Power output at 10% distortion	0.44 W	ClassA;OperatingPoint1
Grid AC voltage at indicated output	3.3 V RMS	ClassA;OperatingPoint1
Anode voltage	90 V	ClassA;OperatingPoint2
Anode current	4.7 mA	ClassA;OperatingPoint2
Control-grid voltage	-2.5 V	ClassA;OperatingPoint2
Screen-grid voltage	90 V	ClassA;OperatingPoint2
Screen-grid current	0.7 mA	ClassA;OperatingPoint2
Optimum matching impedance	19000 Ω	ClassA;OperatingPoint2
Power output at 10% distortion	0.16 W	ClassA;OperatingPoint2
Grid AC voltage at indicated output	2 V RMS	ClassA;OperatingPoint2
Maximum anode dissipation	1 W	Pentode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Mutual conductance	2100 μS	ClassA;OperatingPoint1
Internal resistance	150000 Ω	ClassA;OperatingPoint1
Mutual conductance	1800 μS	ClassA;OperatingPoint2
Internal resistance	170000 Ω	ClassA;OperatingPoint2



SOURCE DATA APPENDIX

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.

1999 PHILIPS E-Z

Section 1 · Pentode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Cheuffage: direct par batterie; VE	2 V	—
alimentation en parallèle I[ϕ	150 mA	—
Capacities Cagl <	1 pF	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Va = S0	135 V	ClassA
Vgl = -2)6	-5 V	ClassA
Ia = 447	7 mA	ClassA
Ig2 = 0,8	1.1 mA	ClassA
s = 1,8	2.1 mA/V	ClassA
Wo (d=10%) = 0,16	0.44 W	ClassA
Va = 90	135 V	ClassB
Vg2 = 90	135 V	ClassB
Vel = -5	-8 V	ClassB
Ia =2x1,0 2x2,7 [1]	2 %	ClassB

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
$I_a = 2 \times 1,0 \ 2 \times 2,7 \ [2]$	2 %	ClassB
$I_a = 2 \times 1,0 \ 2 \times 2,7 \ [3]$	4.9 mA	ClassB
$T_{g2} = 2 \times 0,2 \ 2 \times 0,5 \ 2 \times 0,3$	2x0.8 mA	ClassB
$V_o = [\phi] \ 0,37 \ 0$	0.8 W	ClassB
$V_{g2} = \max \ [1]$	135 V	—
$V_{g2} = \max \ [2]$	135 V	—
$W_{g2} (V_i \ [1])$	0 V	—
$W_{g2} (V_i \ [2])$	0.15 W	—
$W_{g2} (V_i \ [3])$	1 W	—
$W_{g2} (W_o = \max.) = \max. \ 0,30$ $\yen 1k = \max$	10 mA	—
$V_{gl} (I_{gl}=+0,3u4)= \max$	0.2 V	—

TUBE TINKER

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and their source documents.

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