

ELECTRONIC TUBE REFERENCE

PCH200

Voltage - Triode (with diode, heptode or hexode) electronic tube

CONSOLIDATED TECHNICAL DATA

2 SECTIONS
CONSTRUCTION
HEXODE-TRIODE

Series-heater triode-hexode developed specifically for television synchronization and pulse-processing circuits. The hexode performs noise-gated sync separation while the high-transconductance triode provides a separate fast amplifier or pulse-processing stage.

GENERAL CHARACTERISTICS

BASE DESIGNATION	B10B	BASE PINS	10
NOMINAL HEATER	8.5 V / 300 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Dissimilar

SECTION RATINGS

SECTION1 Triode	
PLATE RESISTANCE	18000 Ω
TRANSCONDUCTANCE	0.0088 S
AMPLIFICATION FACTOR	50
MAXIMUM PLATE VOLTAGE	550 V
MAXIMUM PLATE DISSIPATION	1.5 W
MAXIMUM CATHODE CURRENT	20 mA
Published ratings and characteristics promoted from the approved English source.	

SECTION2 Hexode	
PLATE RESISTANCE	500000 Ω
TRANSCONDUCTANCE	0.0025 S
MAXIMUM PLATE VOLTAGE	550 V
MAXIMUM SCREEN VOLTAGE	50 V
MAXIMUM PLATE DISSIPATION	0.5 W
MAXIMUM SCREEN DISSIPATION	0.5 W
MAXIMUM CATHODE CURRENT	5 mA
<i>Published ratings and characteristics promoted from the approved English source.</i>	

Triode-heptode for television synchronization-signal separation and amplification.

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1967 Mullard Receiving and Amplifying Valves

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

1967 MULLARD RECEIVING AND AMPLIFYING VALVES

Section 1 · Triode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	100 V	TriodeSection
Plate current	9 mA	TriodeSection
Grid voltage	-1 V	TriodeSection
Transconductance	8800 μ S	TriodeSection
Amplification factor	50	TriodeSection

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Input capacitance	3.3 pF	TriodeSection
Output capacitance	1.7 pF	TriodeSection
Plate-grid capacitance	1.8 pF	TriodeSection

1967 MULLARD RECEIVING AND AMPLIFYING VALVES

Section 2 · Hexode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	14 V	HeptodeSection
Grids 2+4 voltage	14 V	HeptodeSection
Plate current	1.5 mA	HeptodeSection
Grids 2+4 current	1.3 mA	HeptodeSection
Grid 3 current	1 μ A	HeptodeSection

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Input capacitance	4.4 pF	HeptodeSection
Output capacitance	5.4 pF	HeptodeSection
Plate-grid1 capacitance	0.1 pF	HeptodeSection



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

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1968 Mazda Belvu

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

1968 MAZDA BELVU

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
HeaterVoltageNominal	8.5 V	Nominal
HeaterCurrentNominal	300 mA	Nominal
Maximum Plate Voltage	250 V	—
Maximum Plate Dissipation	1.5 W	—
Maximum Cathode Current	20 mA	—

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconductance	5000 μ S	Typical
Amplification Factor	50	Typical
Plate Resistance	18000 ohm	Typical

1968 MAZDA BELVU

Section 2 · Hexode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
HeaterVoltageNominal	8.5 V	Nominal
HeaterCurrentNominal	300 mA	Nominal
Maximum Plate Voltage	300 V	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum Screen Voltage	250 V	—
Maximum Plate Dissipation	2.5 W	—
Maximum Screen Dissipation	0.8 W	—
Maximum Cathode Current	30 mA	—

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconductance	2500 μ S	Typical
Plate Resistance	500000 ohm	Typical



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SOURCE OPERATING CONDITIONS

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1972 Philips Receiving Tubes

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1972 PHILIPS RECEIVING TUBES

Section 1 · Triode

APPLICATION		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Application	PulseAmplifier text	—

1972 PHILIPS RECEIVING TUBES

Section 2 · Hexode

APPLICATION		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Application	NoiseGatedSyncSeparator text	—



SOURCE DATA APPENDIX

1973 Mazda Valves Binder 2

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

1973 MAZDA VALVES BINDER 2

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Current I_h	300 mA	—
Heater Voltage V_h	85 V	—
Maximum Anode Dissipation $p_a(\max)$ 15	5 W	—
Maximum Screen Grids Dissipation $P_{g2+g4}(\max)$ —	5 W	—
Maximum Anode Supply Voltage $V_a(b)\max$ 550	550 V	—
Maximum Anode Voltage $V_a(\max)$ 250	100 V	—
Maximum Screen Grids Supply Voltage $V_{g2+g4}(b)\max$ —	550 V	—
Maximum Screen Grids Voltage $V_{g2+g4}(\max)$	50 V	—
Maximum Heater to Cathode Voltage $V_{h_k}(\max)$ 170t	100 V	—
Maximum Cathode Current $I_k(\max)$ 20	80 mA	—
t Heater negative. Comprises d.c. maximum of	70 V	—

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Control Grid Voltage $-v_g$, (P_k) $\max$ 200	100 V	—
Grid 3 Voltage $-v_{g3}(P_k)\max$ —	150 V	—
Input C_{in} 3.3	4.4 pF	—
Output t_{out} 1.7	5.4 pF	—
Anode to Grid 1 C_{a_g1} 18 <	1 pF	—
Anode to Grid 3 c_{a_g3} - <	25 pF	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid 1 to Grid 3 cgl_\$3	3 pF	—
Heptode Anode to Triode Anode cah_at <	15 pF	—
Grid 1 to Triode Anode c5l_at <	1 pF	—
Grid 1 to Triode Grid cg,_gt <	5 pF	—
Grid 3 to Triode Grid c\$3_g t <	2 pF	—
Anode Voltage Va 100	200 V	—
Anode Current Ia 90	1 mA	—
Anode Voltage Va 14 14	14 V	—
Screen Grids Voltage Vg2+g4 14 14	14 V	—
Control Grid Voltage Vgi 0 -18	0 V	—
Anode Voltage Va 14 10 14	14 V	—
Screen Grids Voltage Vg2+g4 14 14 14	14 V	—
20 Pa(maxl=I	5 W	—



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

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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 · Triode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Anode current I,	9 mA	—
Transconductance)	8.8 mA/V	—
Grid to all except anode Cg (a)	3.3 pF	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Anode to all except grid Ca (g)	1.7 pF	—
Anode to grid Cag	1.8 pF	—
Heptode grid No.1 to triode grid CnggT max	0.005 pF	—
Heptode grid No.1 to triode anode CngaT max	0.01 pF	—
Heptode grid No.3 to triode grid CggHgT max	0.02 pF	—
Heptode anode to triode anode CaHaT max	0.15 pF	—
Anode voltage 100	200 A	—
Anode current 9.0	0.1 mA	—
Grid voltage, negative peak –Vgp max	200 V	—
max	70 V	—
Y,	14 V	—
V,	14 V	—
Vo	14 V	—
Ig, I9	100 μA	—
(mA)	50 V	—
L4+	10 V	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Anode voltage Vao max	550 V	—
Va max	250 V	—
Anode dissipation W, max	1.5 W	—
Cathode current I max	20 mA	—
Grid resistor (fixed bias) Rg max	2 MΩ	—

1999 PHILIPS E-Z

Section 2 · Hexode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid No.1 voltage V_{g1} 0 -1.8	0 V	—
Grid No.3 voltage V_{g3} 0 0	-1.8 V	—
Anode current I_y 1500 20	20 μ A	—
Heater current I_f	300 mA	—
Heater voltage V_i	8.5 V	—
Grids No.2 and 4 voltage 14 14	14 A	—
Grid No.1 voltage 0 -1.8	0 V	—
Anode current	1 A	—
Anode voltage V_{ao} max	550 V	—
Grids No.2 and 4 voltage $V(g2'g4)_o$ max	350 V	—
Anode dissipation W , max	0.5 W	—
Grids No.2 and 4 dissipation W_{g2+g4} max	0.5 W	—
Grid No.1 voltage, negative peak $-V_{g1}$ max	100 V	—
Grid No.3 voltage, negative peak $-V$ max	150 V	—
2) The grids No.2 and 4 voltage should not be less than	6 V	—
V_o	14 V	—

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid No.1 to all except anode $C_{g1(a)}$	4.4 pF	—
Anode to all except grid No.1 $C_{a(g1)}$	5.4 pF	—
Anode to grid No.1 C_{ag1} max	0.1 pF	—
Anode to grid No.3 C_{ag3} max	0.25 pF	—
Grid No.1 to grid No.3 C_{g1g3}	0.3 pF	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Anode voltage Va 14 1 14	14 V	—

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