



ELECTRONIC TUBE REFERENCE

EL84

Power - Pentode (NOT beam) electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

PENTODE

Power pentode designed for audio-frequency output amplification. Widely used in compact high-fidelity and receiver output stages, it provides substantial Class-A or push-pull audio power from miniature construction.

GENERAL CHARACTERISTICS

BASE DESIGNATION	B9A	BASE PINS	9
NOMINAL HEATER	6.3 V / 760 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION 1 Pentode	
PLATE RESISTANCE	40000 Ω
TRANSCONDUCTANCE	0.0113 S
AMPLIFICATION FACTOR	19
MAXIMUM PLATE VOLTAGE	300 V
MAXIMUM SCREEN VOLTAGE	300 V
MAXIMUM PLATE DISSIPATION	12 W
MAXIMUM SCREEN DISSIPATION	2 W
MAXIMUM CATHODE CURRENT	65 mA
Output pentode with Class A1 amplifier operating data; printed 6BQ5 co-designation not expanded without explicit exact-equivalence statement.	

Power pentode for AF output amplification. Indirectly heated Mazda/Belvu receiving tube; descriptive text translated to English from the French source.

SOURCE OPERATING CONDITIONS

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1953 La Radiotechnique

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

1953 LA RADIOTECHNIQUE

Section 1 · Pentode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	6.3 V	Published nominal value
Heater current	760 mA	Published nominal value
Transconductance	11300 μ S	Published typical/nominal value

SOURCE OPERATING CONDITIONS

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1956 Amperex Hi Fi Brochure

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

1956 AMPEREX HI FI BROCHURE

Section 1 · Pentode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage	250 V	—
Screen Voltage	250 V	—
Plate Current	48 mA	—
Screen Current	5.5 mA	—
Control Grid Voltage	-7.3 V	—
Amplification Factor Grid1-to-Grid2	19 ratio	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Load Resistance	5200 ohm	ClassA; OneTube



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1958 Amperex Industrial

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1958 AMPEREX INDUSTRIAL

Section 1 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	300 V	PushPull
Screen voltage	300 V	PushPull
Grid voltage	-14.5 V	PushPull
Plate current	46 mA	OneTube PushPull
Screen current	11 mA	OneTube PushPull

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconductance	11300 μ S	—



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1958 Brimar Radio Valve No 7

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1958 BRIMAR RADIO VALVE NO 7

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage	6.3 V	—
Heater Current	760 mA	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage	250 V	ClassA
Power Output	5.7 W	ClassA



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195X Tesla

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

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	6.3 V	Published nominal value
Heater current	760 mA	Published nominal value



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SOURCE OPERATING CONDITIONS

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1961 Ferranti Technical Handbook

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

Section 1 · Pentode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	250 V	PentodeConnection
Screen-grid voltage	250 V	PentodeConnection
Control-grid voltage	-7.3 V	PentodeConnection
Plate current	48 mA	PentodeConnection
Screen-grid current	5.5 mA	PentodeConnection
Transconductance	11300 μ S	PentodeConnection



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1963 Amperex Condensed

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1963 AMPEREX CONDENSED

Section 1 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	250 V	AudioOutput
Screen voltage	250 V	AudioOutput
Control-grid voltage	-7.3 V	AudioOutput
Plate current	48 mA	AudioOutput
Screen current	5.5 mA	AudioOutput

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconductance	11300 μ S	Section1



SOURCE DATA APPENDIX

1963 Mullard

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1963 MULLARD
Section 1 · Pentode

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Input capacitance	10.8 pF	—
Output capacitance	6.5 pF	—

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Anode current	48 mA	Pentode; Va=250V
Screen current	5.5 mA	Pentode; Va=250V
Triode transconductance	10000 uS	TriodeConnection

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Output power	5.7 W	SingleValve; Pentode; 10% distortion



SOURCE DATA APPENDIX

1963 Philips Electron Tubes Handbook V1a

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1963 PHILIPS ELECTRON TUBES HANDBOOK V1A
Section 1 · Pentode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	6.3 V	Published heater rating
Heater current	760 mA	Published heater rating

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	250 V	ClassA
Screen voltage	250 V	ClassA
Grid bias	-7.3 V	ClassA
Plate current	48 mA	ClassA
Screen current	5.5 mA	ClassA


SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

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1967 Mullard Receiving Tubes for Maintenance

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

1967 MULLARD RECEIVING TUBES FOR MAINTENANCE

Section 1 · Pentode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Output pentode rated for	12	Characteristic
Va	250 V	CHARACTERISTICS
Vg	34 V	CHARACTERISTICS
la	-9 V	CHARACTERISTICS
IR2	10 V	CHARACTERISTICS

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Cout	6.5 pF	CAPACITANCES


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1968 Mazda Belvu

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1968 MAZDA BELVU

Section 1 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Tension filament s Vf	6.3 V	—
Couraiit filament If	760 mA	—
Capacité grille n° 1/ anode mruavese Cg,/ à	0.5 pF	—
Caâpacité grille n° 1/ filament..... Cg,/f	0.25 pF	—

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Capacité d'entrée ieriiecrermeesenssus Ce	10.8 pF	—
Capacité de sortle - Cs	6.5 pF	—



SOURCE DATA APPENDIX

1972 Philips Receiving Tubes

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1972 PHILIPS RECEIVING TUBES

Section 1 · Pentode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	6.3 V	Published nominal value
Heater current	760 mA	Published nominal value

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconductance	11300 μ S	Published or referenced operating characteristic

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum plate dissipation	12 W	Published or referenced maximum rating
Audio output power	6 W	Published quick-reference value


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1973 Mazda Valves Binder 2

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1973 MAZDA VALVES BINDER 2

Section 1 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage Vh	6.3 V	—
Heater Current Ih	760 mA	—
Maximum Anode Voltage Va(max)	300 V	—
Maximum Screen Voltage Vg2(max)	300 V	—
Maximum Anode Dissipation Pa(max)	12 W	—

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Current Ik(av)max	65 mA	—


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1975 RCA RC30

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1975 RCA RC30

Section 1 · Pentode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage	330	Published value from supplied target entry
Grid-No	330 volts	Published value from supplied target entry
Grid-No	300	Published value from supplied target entry
Grid-No.1 (Control-Grid) Voltage, Positive-bias value	0 volts	Published value from supplied target entry
Plate Dissipation	3.1 watts	Published value from supplied target entry
Grid-No	0.6 watt	Published value from supplied target entry



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1999 Philips E-Z

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1999 PHILIPS E-Z

Section 1 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Typical plate voltage	250 V	ClassA
Typical plate current	48 mA	ClassA
Typical screen current	5.5 mA	ClassA
Typical output power	5.7 W	ClassA



SOURCE DATA APPENDIX

199X JJ

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

199X JJ
Section 1 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Typical Plate Voltage	250 V	—
Typical Screen Voltage	250 V	—
TypicalControlGridVoltage	-7.3 V	—
Typical Plate Current	48 mA	—
Typical Screen Current	5.5 mA	—
Cathode Bias Resistance	135 ohm	ClassA1;OneTube
Load Resistance	5200 ohm	ClassA1;OneTube



SOURCE DATA APPENDIX

2026 Genalex Rebrand

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

2026 GENALEX REBRAND
Section 1 · Pentode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Current	40–54 mA	Plate 250 V; screen 250 V; grid -6.6 V

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Power Output	3 W	Plate 250 V; screen 250 V; load 5.2 kohm; ClassA;OneTube



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2026 JJ Electronic

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

2026 JJ ELECTRONIC

Section 1 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
U _f	6.3 V	Published value
I _f	760 mA	Published value
U _{g2}	300 V	Published value

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
U _a	250 V	Published value
U _{g2}	250 V	Published value
U _{g1}	-7.3 V	Published value
I _a	48 mA	Published value



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2026 Mullard Rebrand

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

2026 MULLARD REBRAND

Section 1 · Pentode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater current	700–840 mA	Published min/max range



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2026 Sovtek

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

2026 SOVTEK

Section 1 · Pentode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Current	40–56 mA	Plate 250 V; Screen 250 V

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Power Output	4.2 W	Load 5.2 kohm; ClassA;OneTube



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2026 Tungsol Rebrand

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

2026 TUNGSQL REBRAND

Section 1 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Power Output	4.2 W	ClassA;OneTube;Plate 250 V;Screen 250 V;Load 5.2 kohm

TUBE TINKER

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