

ELECTRONIC TUBE REFERENCE

12AU7

Voltage - Dual Triode (similar) electronic tube

CONSOLIDATED TECHNICAL DATA
2 SECTIONS
CONSTRUCTION
TRIODE-TRIODE

Medium-mu twin triode for general amplification, phase inversion, oscillators, and multivibrators, offering relatively low plate resistance and greater current capability than high-mu preamplifier triodes.

GENERAL CHARACTERISTICS

BASE DESIGNATION	9A	BASE PINS	9
NOMINAL HEATER	12.6 V / 150 mA	PARALLEL HEATER	6.3 V / 300 mA
HEATING	Indirect	SERIES OPERATION	Capable
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

9A - TERMINAL PINOUT

TERMINAL	SECTION	ELEMENT	STATUS
PIN1 – 2P	B	P – Plate (Anode)	CONNECTED
PIN2 – 2G1	B	G1 – Control Grid	CONNECTED
PIN3 – 2K	B	K – Cathode	CONNECTED
PIN4 – H	–	H – Heater	CONNECTED
PIN5 – H	–	H – Heater	CONNECTED
PIN6 – 1P	A	P – Plate (Anode)	CONNECTED
PIN7 – 1G1	A	G1 – Control Grid	CONNECTED
PIN8 – 1K	A	K – Cathode	CONNECTED
PIN9 – HCT	–	HCT – Heater Center Tap	CONNECTED

SECTION RATINGS

SECTION1 Triode	
PLATE RESISTANCE	6500 Ω
TRANSCONDUCTANCE	0.0022 S
AMPLIFICATION FACTOR	17
MAXIMUM PLATE VOLTAGE	300 V
MAXIMUM PLATE DISSIPATION	2.75 W
MAXIMUM CATHODE CURRENT	20 mA
<i>Representative section for two equal triode systems.</i>	

SECTION2 Triode	
PLATE RESISTANCE	6500 Ω
TRANSCONDUCTANCE	0.0022 S
AMPLIFICATION FACTOR	17
MAXIMUM PLATE VOLTAGE	300 V
MAXIMUM PLATE DISSIPATION	2.75 W
MAXIMUM CATHODE CURRENT	20 mA
<i>Second identical physical triode section; added to align rows with SectionCount.</i>	

Medium-mu dual triode represented on the 7AU7 family page; used for amplifier and television oscillator/deflection service.



SOURCE OPERATING CONDITIONS

1950 Sylvania

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

1950 SYLVANIA

Section 1 · Triode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Resistance	7700 ohm	—
Transconductance	2200 μ S	—
Amplification Factor	17	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum Plate Voltage	330 V	—
Maximum Plate Dissipation	3 W	—
Heater Voltage Series	12.6 V	—
Heater Current Series	150 mA	—
Heater Voltage Parallel	6.3 V	—
Heater Current Parallel	300 mA	—



SOURCE OPERATING CONDITIONS

1955 Marconi

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

1955 MARCONI

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Series heater voltage	12.6 V	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Series heater current	150 mA	—
Parallel heater voltage	6.3 V	—
Parallel heater current	300 mA	—
Maximum plate voltage	300 V	—
Maximum plate dissipation per section	2.75 W	—
Typical plate voltage	250 V	—

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Amplification factor	17	—
Transconductance	2200 μ S	—

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-plate capacitance	1.5 pF	—
Grid-cathode capacitance	1.6 pF	—
Plate-cathode capacitance	0.5 pF	—



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

SOURCE PDF

1958 Amperex Industrial

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

1958 AMPEREX INDUSTRIAL

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	250 V	Published table
Plate current	10.5 mA	Published table
Control-grid bias	-8.5 V	VoltageAmplifier

Characteristic		
Parameter	Published Value	Condition / Note
Plate resistance	7700 ohm	Published table
Transconductance	2200 μ S	Published table
Amplification factor	17	Published table
Heater/filament voltage	6.3 V	Published rating
Heater/filament current	300 mA	Published rating
Series heater voltage	12.6 V	SeriesHeater
Series heater current	150 mA	SeriesHeater



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1958 Brimar Radio Valve No 7

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

1958 BRIMAR RADIO VALVE NO 7

Section 1 · Triode

Characteristic		
Parameter	Published Value	Condition / Note
Heater Voltage	12.6 V	—
Heater Current	150 mA	—



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

195X Tesla

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

195X TESLA

CHARACTERISTICS

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Interelectrode capacitances	Published	See source sheet for electrode-specific capacitance values



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

SOURCE PDF

1961 Ferranti Technical Handbook

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

1961 FERRANTI TECHNICAL HANDBOOK

Section 1 · Triode

APPLICATION

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Application	Amplifier / phase inverter / oscillator / multivibrator	—



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

SOURCE PDF

1961 Tung Sol

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

1961 TUNG SOL

Section 1 · Triode

CHARACTERISTIC

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Resistance	7700 ohm	AlternateOperatingPoint
Transconductance	2200 uS	AlternateOperatingPoint



SOURCE DATA APPENDIX

1963 Amperex Condensed

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

1963 AMPEREX CONDENSED

Section 1 · Triode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	6.3 V	Published heater rating
Heater current	300 mA	Published heater rating
Amplification factor	17	VoltageAmplifier
Plate resistance	7700 ohm	VoltageAmplifier
Transconductance	2200 μ S	VoltageAmplifier
Series heater voltage	12.6 V	SeriesHeater
Series heater current	150 mA	SeriesHeater

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	250 V	VoltageAmplifier
Control-grid bias	-8.5 V	VoltageAmplifier
Plate current	10.5 mA	VoltageAmplifier



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

1965 Sylvania Electronic Tubes Vol3

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

1965 SYLVANIA ELECTRONIC TUBES VOL3

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	12.6 V	—
Heater current	150 mA	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	250 V	ClassA

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate resistance	7700 ohm	ClassA
Transconductance	2200 uS	ClassA
Amplification factor	17	ClassA


SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

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1965 Westinghouse Data Book

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

1965 WESTINGHOUSE DATA BOOK

Section 1 · Triode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage	12.6 V	—
Heater Current	150 mA	—
Plate Current	10.5 mA	—
Plate Resistance	7700 ohm	—
Transconductance	2200 uS	—
Amplification Factor	17	—
Grid To Plate Capacitance	2.4 pF	—
Input Capacitance	3.3 pF	—
Output Capacitance	0.5 pF	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage	250 V	EachUnit
Grid Voltage	-8.5 V	EachUnit

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1966 Tung Sol Electronic Tubes 2 of 4

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

1966 TUNG SOL ELECTRONIC TUBES 2 OF 4

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	250 V	ClassA;EachSection
Plate current	10.5 mA	ClassA;EachSection
Grid voltage	-24 V	ClassA;EachSection

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate resistance	7700 ohm	ClassA;EachSection
Transconductance	2200 uS	ClassA;EachSection
Amplification factor	17	ClassA;EachSection

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-to-plate capacitance	1.7 pF	EachSection
Input capacitance	1.8 pF	EachSection
Output capacitance	1.8 pF	EachSection

SOURCE OPERATING CONDITIONS

1975 RCA RC30

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

1975 RCA RC30

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak Heater-Cathode Voltage	200 V	AbsoluteValue
Average Heater-Cathode Voltage	100 V	AbsoluteValue
Peak Negative-Pulse Grid Voltage	660 V	HorizontalDeflectionOscillator
Peak Cathode Current	330 mA	HorizontalDeflectionOscillator
Peak Positive-Pulse Plate Voltage	1200 V	VerticalDeflectionAmplifier

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid to Plate Capacitance	1.5 pF	EachUnit
Grid to Cathode and Heater Capacitance	1.6 pF	EachUnit

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage	250 V	ClassA;EachUnit
Plate Current	10.5 mA	ClassA;EachUnit



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

SOURCE PDF

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 · Triode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconductance	1700–3000 μ S	Plate 250 V; grid -8.5 V
Plate Current	8.8–12 mA	Plate 250 V; grid -8.5 V

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

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 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Ik	20 mA	Published value

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Ua	250 V	Published value
Ug	-8.5 V	Published value
Ia	10.5 mA	Published value
S	2200 μ S	Published value
Ri	7.7 k Ω	Published value
μ	17	Published value

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
cg/k	1.9	Published value
ca	1.9	Published value
cg/a	1.63	Published value
Ub	250	Published value
Ia	0.7	Published value
Uo/Ug1	11	Published value
U0	15	Published value

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 · Triode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater current at 6.3 V	300–350 mA	Published min/max range
Heater current at 12.6 V	150–175 mA	Published min/max range

TUBE TINKER

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