



ELECTRONIC TUBE REFERENCE

6AJ8

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

CONSOLIDATED TECHNICAL
DATA

2 SECTIONS
CONSTRUCTION
HEPTODE-TRIODE

Versatile triode-heptode frequency changer for oscillator and mixer service, with additional RF, IF, and low-frequency amplifier applications documented by manufacturers. The triode provides local oscillation while the heptode performs frequency conversion.

GENERAL CHARACTERISTICS

BASE DESIGNATION	E9-1	BASE PINS	9
NOMINAL HEATER	6.3 V / 300 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Common cathode	SECTION CONSTRUCTION	Dissimilar

SECTION RATINGS

SECTION1 Triode	
PLATE RESISTANCE	19000 Ω
TRANSCONDUCTANCE	0.0037 S
AMPLIFICATION FACTOR	22
MAXIMUM PLATE VOLTAGE	250 V
MAXIMUM PLATE DISSIPATION	0.8 W
MAXIMUM CATHODE CURRENT	6.5 mA
<i>Published ratings and characteristics promoted from the approved German source.</i>	

SECTION2 Heptode	
PLATE RESISTANCE	700000 Ω
TRANSCONDUCTANCE	0.0024 S
MAXIMUM PLATE VOLTAGE	300 V
MAXIMUM SCREEN VOLTAGE	300 V
MAXIMUM PLATE DISSIPATION	1.7 W
MAXIMUM SCREEN DISSIPATION	1 W
MAXIMUM CATHODE CURRENT	12.5 mA
<i>Published ratings and characteristics promoted from the approved German source.</i>	

General-purpose triode-heptode intended for AM, FM and television receiver frequency-converter and oscillator/mixer service.

SOURCE OPERATING CONDITIONS

1953 RFT Rundfunk Technik

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

1953 RFT RUNDFUNK TECHNIK

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
HeaterVoltageNominal	6.3 V	Nominal
HeaterCurrentNominal	300 mA	Nominal
Maximum Plate Voltage	250 V	—
Maximum Plate Dissipation	1.5 W	—
Maximum Cathode Current	15 mA	—

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconductance	3800 μ S	Typical
Amplification Factor	22	Typical
Plate Resistance	19000 ohm	Typical

1953 RFT RUNDFUNK TECHNIK

Section 2 · Heptode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
HeaterVoltageNominal	6.3 V	Nominal
HeaterCurrentNominal	300 mA	Nominal
Maximum Plate Voltage	300 V	—
Maximum Screen Voltage	250 V	—
Maximum Plate Dissipation	1.5 W	—
Maximum Screen Dissipation	1 W	—
Maximum Cathode Current	25 mA	—

Characteristic		
Parameter	Published Value	Condition / Note
Transconductance	775 μ S	Typical
Plate Resistance	1000000 ohm	Typical


SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

195X General Electric Essential Characteristics

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

195X GENERAL ELECTRIC ESSENTIAL CHARACTERISTICS

Section 2 · Heptode

Other		
Parameter	Published Value	Condition / Note
Maximum plate voltage	300 V	Published handbook rating
Maximum screen voltage	125 V	Published handbook rating
Plate voltage	250 V	ClassA
Screen voltage	102 V	ClassA
Control-grid bias	2 V	ClassA
Plate current	6.5 mA	ClassA
Screen current	3.8 mA	ClassA

Characteristic		
Parameter	Published Value	Condition / Note
Plate resistance	700000 ohm	Published handbook characteristic
Transconductance	2400 μ S	Published handbook characteristic
Heater voltage	6.3 V	Published heater rating
Heater current	300 mA	Published heater rating


SOURCE DATA APPENDIX

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

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
HeaterOrFilamentVoltage	6.3 V	—
HeaterOrFilamentCurrent	300 mA	—

1961 FERRANTI TECHNICAL HANDBOOK

Section 2 · Heptode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Application	Frequency changer RF or IF amplifier	—



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

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Typical plate voltage	250 V	Section1
Typical grid voltage	0 V	Section1
Typical plate current	13.5 mA	Section1

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Amplification factor	22	Section1
Plate resistance	33 kOhm	Section1

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconductance	2400 μ S	Section1

1963 AMPEREX CONDENSED

Section 2 · Heptode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Typical plate voltage	250 V	Section2
Typical screen voltage	100 V	Section2
Typical control-grid voltage	-2 V	Section2
Typical plate current	6.5 mA	Section2
Typical screen current	3.8 mA	Section2

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconductance	650 μ S	Section2



TUBE TINKER
ELECTRON TUBE DATABASE

SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1963 Hitachi

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

1963 HITACHI

Section 1 · Triode

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Interelectrode capacitances published	1	See source table



TUBE TINKER
ELECTRON TUBE DATABASE

SOURCE DATA APPENDIX

1999 Philips 0-D

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

1999 PHILIPS 0-D
Section 1 · Triode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	100 V	—
Plate current	10 mA	—
Transconductance	2800 uS	—
Amplification factor	22	—

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate-grid capacitance	1 pF	—

1999 PHILIPS 0-D
Section 2 · Heptode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	6.3 V	—
Heater current	300 mA	—
Conversion transconductance	700 uS	—
Plate voltage	250 V	—
Screen voltage	100 V	—
Plate current	3 mA	—
Plate resistance	1000000 ohm	Minimum

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Input capacitance	4.8 pF	—

TUBE TINKER

An independent reference for electronic tubes, vacuum tubes,
and their source documents.

