



ELECTRONIC TUBE REFERENCE

6AL5

Diode (NOT rectifier) electronic tube

CONSOLIDATED TECHNICAL DATA

2 SECTIONS

CONSTRUCTION

DIODE-DIODE

Standard miniature twin diode for detector, phase-comparator, discriminator, clipping, switching, and general signal-rectification service.

GENERAL CHARACTERISTICS

BASE DESIGNATION	E7-1	BASE PINS	7
NOMINAL HEATER	6.3 V / 300 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION1 Diode	
MAXIMUM PLATE DISSIPATION	0.25 W
MAXIMUM CATHODE CURRENT	10 mA
PEAK INVERSE VOLTAGE	330 V
NOMINAL OUTPUT CURRENT	9 mA
PEAK FORWARD CURRENT	54 mA
FORWARD VOLTAGE DROP	10 V
MAXIMUM HEATER-CATHODE VOLTAGE	330 V
Representative of both identical diode sections; half-wave rectifier values are per plate.	

SECTION2 Diode	
No fixed ratings recorded.	
Second physical diode section added in approved section-structure reconciliation.	

Indirectly heated dual diode intended for detector and phase-comparator service.



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1948 Brimar Radio Valve Manual

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

1948 BRIMAR RADIO VALVE MANUAL

Section 1 · Diode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Resonant Frequency	700 MHz	Each section
RMS Input per Anode	150 V	HalfWaveRectifier
Supply Impedance per Anode	300 ohm	HalfWaveRectifier; minimum

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Diode to Cathode and Heater Capacitance	3.2 pF	Each section
Cathode to Diode and Heater Capacitance	3.6 pF	Each section



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 · Diode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak Inverse Voltage	275 V	—
Nominal DC Output Current	10 mA	—
Peak Forward Current	350 mA	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
AC Plate Voltage per Plate	117 V	—
DC Output Current per Plate	9 mA	—

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Forward Voltage Drop	10 V	—



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 · Diode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	6.3 V	Published nominal value
Heater current	300 mA	Published nominal value



SOURCE OPERATING CONDITIONS

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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 · Diode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Resonant Frequency	700 MHz	EachSection

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
RMS Input per Anode	150 V	HalfWaveRectifier
Supply Impedance per Anode	300 ohm	HalfWaveRectifier
Rectified Current per Anode	9 mA	HalfWaveRectifier


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SOURCE OPERATING CONDITIONS

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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 1 · Diode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	6.3 V	Published heater rating
Heater current	300 mA	Published heater rating
Tube voltage drop	10 V	At 60 mA DC

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak inverse voltage	330 V	HalfWave
DC output current per plate	9 mA	HalfWave
RMS supply voltage per plate	117 V	HalfWave
Peak current per plate	54 mA	HalfWave


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
Section 1 · Diode

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



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SOURCE OPERATING CONDITIONS

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1960 RCA Industrial and Communications Types

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

1960 RCA INDUSTRIAL AND COMMUNICATIONS TYPES
Section 1 · Diode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage	6.3 V	—
Heater Current	300 mA	—



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

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
RMS input voltage maximum	150 V	EachSection
Maximum resonant frequency	700 MHz	EachSection
RMS input voltage	150 V	HalfWaveRectifier;EachSection
Output current	9 mA	HalfWaveRectifier;EachSection
Supply impedance	300 Ohm	HalfWaveRectifier;EachSection

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Anode-to-anode capacitance maximum	0.026 pF	—
Anode-to-cathode/heater/shield capacitance	3 pF	EachSection



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SOURCE OPERATING CONDITIONS

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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 · Diode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
ACPlateVoltageEachPlate	117 V	—
Heater Warmup Time	11 s	—

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
ResonantFrequencyEachUnit	700 MHz	—



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 · Diode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
AC supply voltage per plate	117 V	FullWave
DC output current per plate	9 mA	FullWave
Minimum total effective plate supply impedance	300 ohm	FullWave



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

1963 Siemens

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

1963 SIEMENS

Section 1 · Diode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Forward current at 10 V	60 mA	Nominal
Resonance frequency	700 MHz	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak diode current	60 mA	—



SOURCE DATA APPENDIX

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 · Diode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak inverse voltage maximum	275 V	—
Peak plate current maximum per plate	350 mA	—
DC output current maximum per plate	10 mA	—
Steady-state peak plate current maximum per plate	60 mA	—
Typical AC plate voltage per plate	117 V	—
Typical DC output current per plate	9 mA	—



SOURCE DATA APPENDIX

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 · Diode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
HeaterOrFilamentVoltage	6.3 V	—
HeaterOrFilamentCurrent	300 mA	—
Plate To Cathode Capacitance	3.2 pF	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
PeakInverseVoltageMaximum	330 V	EachDiode
PeakPlateCurrentMaximum	54 mA	EachDiode
DCOutputCurrentMaximum	9 mA	EachDiode



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1966 Tung Sol Electronic Tubes 1 of 4

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

1966 TUNG SOL ELECTRONIC TUBES 1 OF 4

Section 1 · Diode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum AC plate voltage	117 V RMS	EachSection
Steady-state peak plate current maximum	54 mA	EachSection
Application	Detector, discriminator, limiter, low-current rectifier Section1	

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Resonant frequency approximately	700 MHz	EachSection

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Interelectrode capacitance	3 pF	EachSection



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 · Diode

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate-Cathode-Heater Capacitance Shielded	3.1 pF	EachSection
Plate-Cathode-Heater Capacitance Unshielded	2.5 pF	EachSection
Interplate Capacitance Shielded	<0.026 pF	EachSection
Interplate Capacitance Unshielded	<0.068 pF	EachSection

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak Inverse Voltage	330 V	EachSection
Average Plate Current	9 mA	EachSection



SOURCE DATA APPENDIX

1968 General Electric Co

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

1968 GENERAL ELECTRIC CO

Section 1 · Diode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
HeaterOrFilamentVoltageNominal	6.3 V	—
HeaterOrFilamentCurrentNominal	300 mA	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum Peak Inverse Voltage	330 V	—
NominalDCOutputCurrent	9 mA	—
PeakForwardCurrent	54 mA	—
Maximum Heater Cathode Voltage	330 V	—

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Forward Voltage Drop	10 V	—



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 · Diode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage..... eersrereeeninmnenensçenss VÊ	6.3 V	—
Heater current..... sirererencenencnnnnnnnn IË	300 mA	—
Peak inverse voltage d'anode..... s VAiCE	420 V	—
Courant d'AnOd@E rineereeserencnsenençrenenmmnnnnnn Û e	9 mA	—

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Capacitance anode/ cathode, filament Ca/kf	2.5 pF	InterelectrodeCapacitance
Capacitance cathode/ anode, filament Ck/af	3.4 pF	InterelectrodeCapacitance
Capacitance entre anodes n Ca'/a"	0.068 pF	InterelectrodeCapacitance

SOURCE OPERATING CONDITIONS

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1971 RCA HB3 Binder 3 of 7

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

1971 RCA HB3 BINDER 3 OF 7

Section 1 · Diode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	6.3 V	Nominal
Heater current	300 mA	Nominal
Maximum peak inverse plate voltage	275 V	Promoted published value

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak forward/plate current	60 mA	Promoted published value
Nominal/DC output current	10 mA	Promoted published value
Voltage	20 V	—
Current at	0.3 V	—

SOURCE OPERATING CONDITIONS

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1971 RCA HB3 Binder 4 of 7

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

1971 RCA HB3 BINDER 4 OF 7

Section 1 · Diode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage nominal	6.3 V	—
Heater current	300 mA	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak inverse plate voltage	330 V	—
Peak plate current	54 mA	—
DC output current	9 mA	—
AC plate voltage RMS	117 V	HalfWaveRectifier
Minimum effective plate-supply impedance	300 ohm	HalfWaveRectifier



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

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1975 RCA RC30

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

1975 RCA RC30

Section 1 · Diode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage (ac/dc) 3.15 6.3	12.6 V	Published in approved 6AL5 target entry; Section1
Peak Inverse Plate Voltage	330 V	Published in approved 6AL5 target entry; Section1

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate No.1 to Cathode No.1, Heater, and Internal Shield	2.5 pF	Published in approved 6AL5 target entry; Section1
Plate No.2 to Cathode No.2, Heater, and Internal Shield	2.5 pF	Published in approved 6AL5 target entry; Section1
Cathode No.1 to Plate No.1, Heater, and Internal Shield	3.4 pF	Published in approved 6AL5 target entry; Section1
Cathode No.2 to Plate No.2, Heater, and Internal Shield	3.4 pF	Published in approved 6AL5 target entry; Section1

TUBE TINKER

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

