

ELECTRONIC TUBE REFERENCE

6X4

Rectifier - Full Wave electronic tube

CONSOLIDATED TECHNICAL DATA
2 SECTIONS
CONSTRUCTION
RECTIFIER-RECTIFIER

Miniature full-wave vacuum rectifier for receiver and general electronic power supplies. Rated for approximately 1.25 kV peak inverse voltage, 70 mA DC output, and 245 mA peak current.

GENERAL CHARACTERISTICS

BASE DESIGNATION	5S	BASE PINS	7
NOMINAL HEATER	6.3 V / 600 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

5S - TERMINAL PINOUT

TERMINAL	SECTION	ELEMENT	STATUS
PIN1 – IS	A	IS – Internal Screen	CONNECTED
PIN2 – F	–	F – Filament	CONNECTED
PIN3 – P	A	P – Plate (Anode)	CONNECTED
PIN5 – G1	A	G1 – Control Grid	CONNECTED
PIN7 – F	–	F – Filament	CONNECTED

SECTION RATINGS

SECTION1 Rectifier	
PEAK INVERSE VOLTAGE	1250 V
NOMINAL OUTPUT CURRENT	70 mA
PEAK FORWARD CURRENT	245 mA
FORWARD VOLTAGE DROP	22 V
MAXIMUM HEATER-CATHODE VOLTAGE	450 V
<i>Representative row for two identical rectifier sections; peak inverse, steady-state peak plate current and typical full-wave output values mapped from source.</i>	

SECTION2 Rectifier	
PEAK INVERSE VOLTAGE	1250 V
NOMINAL OUTPUT CURRENT	70 mA
PEAK FORWARD CURRENT	245 mA
FORWARD VOLTAGE DROP	22 V
MAXIMUM HEATER-CATHODE VOLTAGE	450 V
<i>Second physical rectifier section; electrical properties populated from corresponding identical section.</i>	

6X4 is a Rectifier vacuum tube documented in the RCA Receiving Tube Manual. The supplied excerpt was reviewed for heater data, section arrangement, maximum ratings, electrical characteristics, interelectrode capacitances, typical operating conditions, and stated applications.



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1950 Sylvania

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

1950 SYLVANIA

Section 1 · Rectifier

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
DC output current capacitor-input	70 mA	CapacitorInputFilter
DC output current choke-input	70 mA	ChokeInputFilter



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 · Rectifier

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage	6.3 V	—
Heater Current	600 mA	—



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 · Rectifier

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum peak inverse voltage	1250 V	—
Nominal DC output current	70 mA	—
Maximum peak forward current	210 mA	—
Maximum RMS supply voltage	325 V	—

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Forward voltage drop	22 V	—
Forward-voltage-drop test current	70 mA	—



TUBE TINKER
ELECTRON TUBE DATABASE

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 · Rectifier

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak Inverse Voltage	1250 V	—
Peak Anode Current	200 mA	—
RMS Input Voltage per Anode	450 V	—

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

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 · Rectifier

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater/filament voltage	6.3 V	Published rating
Heater/filament current	600 mA	Published rating

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
AC supply voltage plate-to-plate	2x325 V RMS	FullWave
DC output current	70 mA	FullWave
Maximum capacitor-input filter capacitance	10 uF	CapacitorInputFilter
DC output voltage	310 V	FullWave

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 · Rectifier

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak inverse plate voltage	1250 V	—
Steady-state peak plate current per plate	245 mA	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transient peak plate current per plate	1.1 A	Duration<=0.2s
DC output current	70 mA	—
DC output voltage	385 V	I _{out} =70mA



SOURCE DATA APPENDIX

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 · Rectifier

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Steady-state peak plate current per plate	245 mA	—
Transient peak plate current per plate	1.1 A	—
AC plate voltage per plate	325 V	CapacitorInputFilter
Input capacitor	10 uF	CapacitorInputFilter
DC output current	70 mA	CapacitorInputFilter
AC plate voltage per plate	400 V	ChokeInputFilter
Input choke	10 H	ChokeInputFilter
DC output current	70 mA	ChokeInputFilter

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Tube voltage drop at 70 mA per plate	22 V	—



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 · Rectifier

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
AC Plate-Supply Voltage per Plate	450 V	ChokeInputFilter
AC Plate-Supply Voltage per Plate	325 V	CapacitorInputFilter
DC Output Voltage at Filter Input	340 V	ChokeInputFilter;Iout=70mA
DC Output Voltage at Filter Input	310 V	CapacitorInputFilter;Iout=70mA



SOURCE DATA APPENDIX

1971 RCA HB3 Binder 5 of 7

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

1971 RCA HB3 BINDER 5 OF 7

Section 1 · Rectifier

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	6.3 V	—
Heater current	600 mA	—
Peak inverse voltage	1250 V	FullWave
DC output current	70 mA	FullWave
Peak plate current per plate	245 mA	EachPlate
Maximum heater-cathode voltage	450 V	—
AC plate voltage per plate	325 V	CapacitorInputFilter

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Forward voltage drop	22 V	—



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

SOURCE PDF

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 · Rectifier

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
volte	4 V	Characteristic;PublishedValue1
volte	3 V	Characteristic;PublishedValue2
volte	6 V	Characteristic;PublishedValue3
missible heater-voltage range is from	6 V	Characteristic;PublishedValue1
missible heater-voltage range is from	8 V	Characteristic;PublishedValue2

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak Inverse Plate Voltage	1250 V	MaximumRating
Steady-State Peak Plate Current (Per Plate)	245 mA	MaximumRating
DC Output Voltage (At filter input)t	360 V	MaximumRating
Average Output Current (Each plate)t	45 mA	MaximumRating
cycle	75 %	MaximumRating
per plate of	1.1 A	MaximumRating
Ef=	6 V	TypicalOperation;PublishedValue1
Ef=	6.3 V	TypicalOperation;PublishedValue2
Ef=	60 V	TypicalOperation;PublishedValue3

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
„„ . „ (	520 ohm	TypicalOperation
PER PLATE ^	400 ohm	TypicalOperation;PublishedValue1
PER PLATE ^	6 ohm	TypicalOperation;PublishedValue2
PER PLATE ^	-8 ohm	TypicalOperation;PublishedValue3
Effective Plate Supply Impedance (Each plate)	525 ohm	TypicalOperation
< „. II	6.3 V	TypicalOperation
Peak Inverse Plate Voltage	1250 V	Section1
Nominal Output Current	70 mA	Section1
Peak Forward Current	245 mA	Section1
Maximum Heater-Cathode Voltage	450 V	Section1