



ELECTRONIC TUBE REFERENCE

UY89

Rectifier - Half Wave electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

RECTIFIER

Indirectly heated half-wave rectifier for radio receivers operating from 110–250 V mains. Its 31 V series-string heater provides moderate receiver supply current.

GENERAL CHARACTERISTICS

BASE DESIGNATION	Noval	BASE PINS	–
NOMINAL HEATER	31 V / 100 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION 1 Rectifier	
PEAK INVERSE VOLTAGE	700 V
NOMINAL OUTPUT CURRENT	100 mA
PEAK FORWARD CURRENT	600 mA
MAXIMUM HEATER-CATHODE VOLTAGE	550 V
<i>Published maximum ratings and typical characteristics promoted from the approved source.</i>	

Indirectly heated half-wave rectifier for 110–250 V mains receivers.



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1958 Mullard Receiving Tubes

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

1958 MULLARD RECEIVING TUBES

Section 1 · Rectifier

APPLICATION

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Application	Half-wave mains rectifier	—



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1963 Philips Electron Tubes Handbook V1

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

1963 PHILIPS ELECTRON TUBES HANDBOOK V1

Section 1 · Rectifier

OTHER

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum peak inverse voltage	700 V	HalfWave
Maximum DC output current	100 mA	HalfWave
Maximum peak cathode/anode current	600 mA	HalfWave
Maximum heater-cathode voltage	550 V	CathodePositive
Maximum filter capacitance	50 uF	CapacitorInputFilter
AC input voltage	110 V RMS	HalfWave
Minimum series resistance	0 ohm	HalfWave; ACInput=110V
DC output voltage	113 V	HalfWave; ACInput=110V

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
AC input voltage	127 V RMS	HalfWave
Minimum series resistance	0 ohm	HalfWave; ACInput=127V
DC output voltage	135 V	HalfWave; ACInput=127V
AC input voltage	220 V RMS	HalfWave
Minimum series resistance	160 ohm	HalfWave; ACInput=220V
DC output voltage	188 V	HalfWave; ACInput=220V
AC input voltage	250 V RMS	HalfWave
Minimum series resistance	210 ohm	HalfWave; ACInput=250V
DC output voltage	205 V	HalfWave; ACInput=250V



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1972 Philips Receiving Tubes

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

1972 PHILIPS RECEIVING TUBES

Section 1 · Rectifier

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
HeaterVoltageNominal	31 V	Nominal
HeaterCurrentNominal	100 mA	Nominal
Maximum Peak Inverse Voltage	700 V	—
Rectified Output Current	100 mA	—
PeakForwardCurrent	600 mA	—
TransformerVoltageRMS	250 V	Single-phase half-wave rectifier



SOURCE DATA APPENDIX

1999 Philips E-Z

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

1999 PHILIPS E-Z

Section 1 · Rectifier

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transformer voltage V_{ir}	250 V	Transformer voltage V_{ir} 250 V
D.C. current I_o	100 mA	D.C. current I_o 100 mA
Heater current I_{ϕ}	100 mA	Heater current I_{ϕ} 100 mA
Heater voltage V_g	31	Heater voltage V_g 31 V _v
Transformer voltage V_{ir}	110	Transformer voltage V_{ir} 250 220 127 110 VRMS
D.C. output voltage v_y	113 V	D.C. output voltage v_y 205 188 135 113 V
D.C. current I	100 mA	D.C. current I 100 100 100 100 mA
Protecting resistance R_e	0	Protecting resistance R_e 210 160 0 0 @
Input capacitor of smoothing filter C_{ilt}	50	Input capacitor of smoothing filter C_{ilt} 50 50 50 50 μ F
Protecting resistance R_y min,	0 Ω	Protecting resistance R_y min, 210 160 0 0 Ω
at transformer voltage V_{ir}	110	at transformer voltage V_{ir} 250 220 127 110 VRMS

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Anode voltage, peak inverse $v_{a'mvp}$ max	700	Anode voltage, peak inverse $v_{a'mvp}$ max. 700 V
D.C. current I , max.,	100 mA	D.C. current I , max., 100 mA
Anode current, peak I_{ap} max	600 mA	Anode current, peak I_{ap} max. 600 mA

TUBE TINKER

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

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