



ELECTRONIC TUBE REFERENCE

PY81

Rectifier - Damper Diode electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

RECTIFIER

Indirectly heated television booster or damper diode for transformerless line time-base circuits, with approximately 5.6 kV inverse-voltage capability and 150 mA average current.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	9
NOMINAL HEATER	17 V / 300 mA	PARALLEL HEATER	— / —
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION 1 Rectifier	
MAXIMUM PLATE VOLTAGE	250 V
MAXIMUM PLATE DISSIPATION	3.5 W
MAXIMUM CATHODE CURRENT	150 mA
PEAK INVERSE VOLTAGE	5600 V
NOMINAL OUTPUT CURRENT	150 mA
PEAK FORWARD CURRENT	400 mA
MAXIMUM HEATER-CATHODE VOLTAGE	600 V
Rectifier section; promoted values are taken from the approved source where explicitly published.	

Indirectly heated television booster/damper diode with high heater-to-cathode withstand for flyback service.



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1953 La Radiotechnique

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

1953 LA RADIOTECHNIQUE

Section 1 · Rectifier

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Perveance	2.4 mA	Rectifier

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate capacitance. . . Ca	64 pF	Rectifier
Cathode-heater capacitance Ckf	28 pF	Rectifier

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Courant de la diode . . Id	150 mA	Rectifier
ration	4 uF	Rectifier
cathode	600 V	Rectifier
filament et cathode. . Vkfer	900 V	Rectifier
filament et cathode. . Vkfer	0 V	Rectifier
anode et cathode. . . Vaker	0 V	Rectifier
anode et filament . . Vafer	0 V	Rectifier



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

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Inverse plate voltage maximum	4.5 kV	—
DC plate current maximum	150 mA	—
Peak plate current maximum	450 mA	—
Duty ratio maximum	1:5.5	—
Pulse duration maximum	18 μ s	—



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1957 Philips Receiving and Amplifying Tubes

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

1957 PHILIPS RECEIVING AND AMPLIFYING TUBES

Section 1 · Rectifier

APPLICATION		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Application	Television line time-base booster/damper service	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak anode-cathode voltage maximum	5.6 kV	Pulse



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 · Rectifier

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak Anode Current	450 mA	—
Mean Anode Current	150 mA	—
Heater-Cathode Voltage During Flyback	4500 V	HeaterNegative

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Application	Television booster/damper diode	—



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 · Rectifier

APPLICATION		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Application	Television booster / damper diode	—



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
Peak inverse voltage maximum	5000 V	BoosterDiode
Peak inverse voltage absolute maximum	5600 V	BoosterDiode
Average plate current maximum	150 mA	BoosterDiode
Peak plate current maximum	450 mA	BoosterDiode
Plate dissipation maximum	3.5 W	BoosterDiode
Heater-to-cathode peak voltage maximum	5000 V	BoosterDiode
Heater-to-earth voltage maximum	220 V	SeriesString
Application	Booster diode in transformerless television line time-base circuits Section1	

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate capacitance	6.4 pF	Section1
Cathode-to-heater capacitance	2.8 pF	Section1



SOURCE DATA APPENDIX

1967 Mullard Receiving and Amplifying Valves

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

1967 MULLARD RECEIVING AND AMPLIFYING VALVES

Section 1 · Rectifier

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Booster diode with	4.75	Characteristic

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
*P.I.V. max	5 V	LIMITING VALUES
* $i_a(P_k)$ max	450 mA	LIMITING VALUES
* $V_a - h(IJ k j)$	3 kV	LIMITING VALUES



SOURCE DATA APPENDIX

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	17 V	Nominal
HeaterCurrentNominal	300 mA	Nominal
Maximum Plate Dissipation	3.5 W	—
Maximum Cathode Current	150 mA	—
Maximum Peak Inverse Voltage	5600 V	—
PeakForwardCurrent	450 mA	—
MaximumPeakAnodeVoltageDesignCentre	5000 V	Pulse

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1973 Mazda Valves Binder 2

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

1973 MAZDA VALVES BINDER 2

Section 1 · Rectifier

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	17 V	Published nominal value
Heater current	300 mA	Published nominal value

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum peak heater-cathode voltage	4.5 kV	Flyback; heater negative

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

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

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Anode current, peak Iap max	45 mA	Anode current, peak Iap max. 45 mA
Anode voltage, peak Vap max	5000 V	Anode voltage, peak Vap max. 5000 V
Cathode to heater voltage, peak kap max	0 V	Cathode to heater voltage, peak kap max. 000 V
Heater current Ig	300 mA	Heater current Ig 300 mA
Heater voltage V _h	17 V	Heater voltage V _h 17V
Anode to all Ca	6.4 pF	Anode to all Ca 6.4 pF

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Cathode to heater Ckf	2.8 pF	Cathode to heater Ckf 2.8 pF
Supply voltage Vbo max	550 V	Supply voltage Vbo max. 550 V
Anode dissipation W, max	3.5 W	Anode dissipation W, max. 3.5 W
Anode current, average Iy max	150 mA	Anode current, average Iy max 150 mA
Cathode to heater voltage, peak kap max	5000 V	Cathode to heater voltage, peak kap max. 5000 V l)