



ELECTRONIC TUBE REFERENCE

EY87

Rectifier - TV Line Scan Boost electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION
CONSTRUCTION
RECTIFIER

Television flyback/EHT rectifier with treated envelope for improved flashover resistance, designed to generate CRT accelerating voltage from horizontal-output pulses.

GENERAL CHARACTERISTICS

BASE DESIGNATION	Novol	BASE PINS	9
NOMINAL HEATER	6.3 V / 90 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION1 Rectifier	
PLATE RESISTANCE	0.02 Ω
MAXIMUM CATHODE CURRENT	3 mA
PEAK INVERSE VOLTAGE	22000 V
NOMINAL OUTPUT CURRENT	0.5 mA
PEAK FORWARD CURRENT	40 mA
Filename-matched Russian entry only.	

High-voltage half-wave rectifier for television flyback EHT service. The EY87 uses a treated envelope for improved flashover resistance.

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1963 Philips Electron Tubes Handbook V1a

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

1963 PHILIPS ELECTRON TUBES HANDBOOK V1A

Section 1 · Rectifier

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Anode capacitance	1.55 pF	WithoutExternalShield

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Internal resistance at 1 mA output	20 kOhm	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak inverse voltage	22000 V	PulsedEHT
Peak inverse voltage at zero output	24000 V	PulsedEHT
Absolute peak inverse voltage	27000 V	PulsedEHT
Maximum DC output current	0.5 mA	PulsedEHT
Short-period DC output current	0.8 mA	TelevisionService
Maximum DC output current	3 mA	50HzSinusoidal

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

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
I	90 mA	Published in approved EY87 target datasheet entry; Section1
l	7 pF	Published in approved EY87 target datasheet entry; Section1
t P . I. V. max	22000 V	Published in approved EY87 target datasheet entry; Section1
(ttia(Pk) max	40 mA	Published in approved EY87 target datasheet entry; Section1
C m ax	2000 pF	Published in approved EY87 target datasheet entry; Section1
Vin (r . m . s .) max . 5	0 V	Published in approved EY87 target datasheet entry; Section1
when operated above	16000 V	Published in approved EY87 target datasheet entry; Section1
Pins 1, 4,6 and	9 mA	Published in approved EY87 target datasheet entry; Section1



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

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	6.3 V	Published nominal value
Heater current	90 mA	Published nominal value

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum DC anode current	0.8 mA	Television flyback EHT
X-ray shielding threshold	16 kV	Design-centre PIV warning



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

SOURCE PDF

1981 Russian Tubes Katsnelson and Larionov

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

1981 RUSSIAN TUBES KATSNELSON AND LARIONOV

Section 1 · Rectifier

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater current	90 mA	Translated from Russian source; Ток накала . K, 90 mA
Plate current	12 mA	Translated from Russian source; Ток анода (при !./д=100 В) МАЕ ВНО 12 mA
Capacitance	1.8 pF	Translated from Russian source; Емкость между анодом и катодом , 1,8 пФ
Plate current	100 mA	Translated from Russian source; Ток анода , 100 mA
Transconductance	14 mA/V	Translated from Russian source; Крутизна характеристики . . , ... , 14 mA/В
Amplification factor	1	Translated from Russian source; Коэффициент усиления по 2-й сетке относительно 1-й

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Rectified current	150 mA	Translated from Russian source; Выпрямленный ток (при $P_{выпр}$ 18 кВ) К . . . 150 мкА
Peak inverse voltage	22 V	Translated from Russian source; Обратное напряжение (в импульсе) , 22 кВ
Rectified current	800 mA	Translated from Russian source; Выпрямленный ток (среднее значение) 800 мкА
Heater voltage	25 V	Translated from Russian source; Напряжение накала , 25 В


SOURCE DATA APPENDIX

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

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Published electrical datum	6.3 V	Chauffage: indirect par C.A. ou C.C. $V_e = 6,3$ V%)
Published electrical datum	6.3 V	Chauffage: indirect par C.A. ou C.C. $V_e = 6,3$ V) °)
Published electrical datum	90 mA	alimentation parallele $I_r = 90$ mA
Published electrical datum	—	$i_A \setminus N 1 =$
Published electrical datum	1 mA	Caractéristiques types $R_y (I_o = 1 \text{ mA}) = 20 \text{ k}\Omega$
Published electrical datum	0.15 mA	$I_1 = 0,15 \text{ mA}$
Published electrical datum	1.55 pF	Capacité sans blindage extérieur) $C_z = 1,55 \text{ pF}$
Published electrical datum	1 mA	$= 1 \text{ mA}$) 20 k@
Published electrical datum	0.15 mA	$I_{0,15 \text{ mA}}$
Published electrical datum	18 kV	$V_o 18 \text{ kV}$
Published electrical datum	22 kV	$V_a \text{ invp} = \text{pax. } 22 \text{ kV } 3)4)$

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Published electrical datum	—	Caracteristiques limites pour utilisation a 50 Hz avec
Published electrical datum	0.1 MΩ	$R_t = \min. 0,1 \text{ M}\Omega$
Published electrical datum	—	peut être réglée a 6,3 V par exemple par une mesure
Published electrical datum	6.3 V	mittels Messung mit einem Thermoelement auf 6,3 V ein-
Published electrical datum	—	Caractéristiques limites pour utilisation & 50 Hz avec
Published electrical datum	0.1 MΩ	$R_y = \min. 0,1 \text{ M}\Omega$
Published electrical datum	6.3 V	peut être réglée a. 6,3 V par exemple par une mesure
Published electrical datum	—	value at a D.C. output current of 200 μA ., At an increase
Published electrical datum	400 μA	of the D.C. output current to 400 a 600 μA which can
Published electrical datum	400 μA	allant jusqu'a 400 a 600 μA , accroissement pouvant se
Published electrical datum	—	value at a D.C. output current of 200 μA . At an increase
Published electrical datum	400 μA	allant Jusqu'a 400 a 600 μA , accrolssement pouvant se
Published electrical datum	1 μA	continue positive peut être d'environ 1 a 4,5
Published electrical datum	1 μA	continue positive peut être d'environ 1 a 4,5
Published electrical datum	0.8 mA	0.8 mA L.
Published electrical datum	250 V	50 100 150 200 250 V(V) 300

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Published electrical datum	24 kv	$V_{a \text{ tnpv}} (I_o = 0) = \max. 24 \text{ kv } (^\circ)\%$
Published electrical datum	27 kv	$V_{a \text{ lnpv}} = \max. 27 \text{ kv } 4\%$
Published electrical datum	0.8 mA	$I_o = \max. 0,8 \text{ mA } 6$
Published electrical datum	40 mA	$I_{ap} = \max. 40 \text{ mA } (^\circ)$
Published electrical datum	2000 pF	$C_{rilt} = \max. 2000 \text{ pF}$
Published electrical datum	3 mA	$I_o = \max. 3 \text{ mA}$
Published electrical datum	0.2 μF	$C_{rilt} = \max. 0,2 \text{ uF}$
Published electrical datum	22 kv	$V_{a \text{ invp}} = \max. 22 \text{ kv } 2)\%$

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Published electrical datum	24 kv	Va invp (To = 0) = max. 24 kv 2)%)
Published electrical datum	0.5 mA	Io = max. 0,5 mA 6)
Published electrical datum	40 mA	Tap = max. 40 mA 7)
Published electrical datum	–	au maximum a 15%. Ces exigences sont valables pour la
Published electrical datum	–	au maximum a 15%. Ces exlgences sont valables pour la
Published electrical datum	–	Maximum pulse duration 22 % of a line scanning cycle
Published electrical datum	–	with a maximum of 18 usec
Published electrical datum	–	Maximum pulse duration 10 % of a line scanning cycle
Published electrical datum	–	with a maximum of 10 psec
Published electrical datum	–	) Maximum pulse duration 22 % of a line scanning cycle
Published electrical datum	–	with a maximum of 18 psec ,
Published electrical datum	0.8 mA	vision I5 = max. 0,8 mA
Published electrical datum	0.8 mA	= max. 0,8 mA
Published electrical datum	–	Maximum pulse duration 10 % of a line scanning cycle
Heater voltage	6.3 V	Nominal heater rating
Heater current	90 mA	Nominal heater rating