

ELECTRONIC TUBE REFERENCE

6BE3

Rectifier - Damper Diode electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION
CONSTRUCTION
RECTIFIER

Duodecar half-wave vacuum rectifier designed as a damper tube in color and monochrome television horizontal-deflection circuits.

GENERAL CHARACTERISTICS

BASE DESIGNATION	12BL	BASE PINS	12
NOMINAL HEATER	6.3 V / 1.2 A	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

12BL - TERMINAL PINOUT

TERMINAL	SECTION	ELEMENT	STATUS
PIN1	–	H – Heater	CONNECTED
PIN4	–	P – Plate (Anode)	CONNECTED
PIN6	–	K – Cathode	CONNECTED
PIN7	–	–	IC
PIN8	–	–	IC
PIN9	–	P – Plate (Anode)	CONNECTED
PIN12	–	H – Heater	CONNECTED

SECTION RATINGS

SECTION1 Rectifier	
MAXIMUM PLATE DISSIPATION	6.5 W
PEAK INVERSE VOLTAGE	5000 V
NOMINAL OUTPUT CURRENT	200 mA
PEAK FORWARD CURRENT	1.2 A
FORWARD VOLTAGE DROP	25 V
MAXIMUM HEATER-CATHODE VOLTAGE	5000 V
WARM-UP TIME	11 s
<i>Damper-diode PIV/current ratings are preserved as parameters rather than rectifier-specific promoted fields.</i>	

Duodecar half-wave vacuum rectifier used as a damper tube in horizontal-deflection circuits of color and black-and-white television receivers.



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

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	6.3 V	—
Heater current	1.2 A	—
Forward voltage drop	25 V	At specified plate current

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak inverse voltage	5000 V	—
Peak plate current	1200 mA	—
DC plate current	200 mA	—
Plate dissipation	6.5 W	—
Heater negative to cathode total DC plus peak	5000 V	—
Heater positive to cathode total DC plus peak	300 V	—



SOURCE OPERATING CONDITIONS

1966 Tung Sol Electronic Tubes 1 of 4

[SOURCE PDF](#)

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 · Rectifier

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak inverse plate voltage maximum	5000 V	TVDamper
Plate dissipation maximum	6.5 W	TVDamper
Steady-state peak plate current maximum	1200 mA	TVDamper
DC output current maximum	200 mA	TVDamper
Application	Horizontal-deflection damping diode in television receivers Section1	

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Tube voltage drop	25 V	SpecifiedPlateCurrent



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

SOURCE PDF

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
Peak Inverse Plate Voltage	5000 V	—
Steady State Peak Plate Current	1.2 A	—
DC Output Current	200 mA	—
HeaterCathodeVoltageHeaterPositiveDC	100 V	—
HeaterCathodeVoltageHeaterPositiveTotalDCPeak	300 V	—
HeaterCathodeVoltageHeaterNegativeDC	900 V	—
HeaterCathodeVoltageHeaterNegativeTotalDCPeak	5000 V	—

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Tube Voltage Drop	25 V	PlateCurrent=350mA

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Cathode To Plate And Heater Capacitance	10 pF	—
Plate To Cathode And Heater Capacitance	8 pF	—
Heater To Cathode Capacitance	34 pF	—



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 · Rectifier

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Voltage (AC or DC) t	6.3 V	PublishedColumn1
Voltage (AC or DC) t	0.6 V	PublishedColumn2
Heater negative with respect to cathodee b max	5000 V	—
Heater positive with respect to cathode. c max	300 V	—
The do component must not exceed	900 V	—
The tic component must not exceed	100 V	—

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
P to (K, H)	10 pF	—
K to (P, H)	8 pF	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
H to K	3.4 pF	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak Inverse Plate Voltages max	5000 V	—
Peak Plate Current max	1200 mA	—
DC Plate Current max	200 mA	—
Plate Dissipation max	6.5 W	—



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

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage (ac/dc) «.3 12.6	16.8 V	Published in approved 6BZ3 target datasheet entry; Section1
Heater Current 1.2 0.6	460 mA	Published in approved 6BZ3 target datasheet entry; Section1
Heater Warm-up Time (Average) – 11	11 seconds	Published in approved 6BZ3 target datasheet entry; Section1
Peak Inverse Plate Voltage*	5000 V	Published in approved 6BZ3 target datasheet entry; Section1
Peak Plate Current	1200 mA	Published in approved 6BZ3 target datasheet entry; Section1
Average Plate Current	200 mA	Published in approved 6BZ3 target datasheet entry; Section1
Plate Dissipation	6.6 W	Published in approved 6BZ3 target datasheet entry; Section1
Peak value +300	-5000 V	Published in approved 6BZ3 target datasheet entry; Section1

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Average value +100	-900 V	Published in approved 6BZ3 target datasheet entry; Section1
Tube Voltage Drop for dc plate current of	350 mA	Published in approved 6BZ3 target datasheet entry; Section1
Tube Voltage Drop for dc plate current of 350 mA	26 V	Published in approved 6BZ3 target datasheet entry; Section1

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate to Cathode, and Heater	10 pF	Published in approved 6BZ3 target datasheet entry; Section1
Cathode to Heater, and Plate	8 pF	Published in approved 6BZ3 target datasheet entry; Section1
Heater to Cathode	3.4 pF	Published in approved 6BZ3 target datasheet entry; Section1

TUBE TINKER

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