

ELECTRONIC TUBE REFERENCE

3AT2

Rectifier - TV Line Scan Boost electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION
CONSTRUCTION
RECTIFIER

Tung-Sol flyback high-voltage rectifier for television receivers. Its specialized construction rectifies horizontal-output pulses to generate picture-tube accelerating voltage.

GENERAL CHARACTERISTICS

BASE DESIGNATION	12FV	BASE PINS	12
NOMINAL HEATER	3.15 V / 220 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

12FV - TERMINAL PINOUT

TERMINAL	SECTION	ELEMENT	STATUS
PIN1	–	H – Heater	CONNECTED
PIN1	–	IS – Internal Screen	CONNECTED
PIN1	–	K – Cathode	CONNECTED
PIN2	–	H – Heater	CONNECTED
PIN2	–	IS – Internal Screen	CONNECTED
PIN2	–	K – Cathode	CONNECTED
PIN3	–	–	IC
PIN5	–	H – Heater	CONNECTED
PIN5	–	IS – Internal Screen	CONNECTED
PIN5	–	K – Cathode	CONNECTED
PIN6	–	H – Heater	CONNECTED
PIN6	–	IS – Internal Screen	CONNECTED
PIN6	–	K – Cathode	CONNECTED

TERMINAL	SECTION	ELEMENT	STATUS
PIN8	—	H – Heater	CONNECTED
PIN9	—	H – Heater	CONNECTED
PIN11	—	—	IC
PIN12	—	H – Heater	CONNECTED
CAP1	A	P – Plate (Anode)	CONNECTED

SECTION RATINGS

SECTION1 Rectifier	
PEAK INVERSE VOLTAGE	30000 V
NOMINAL OUTPUT CURRENT	1.7 mA
PEAK FORWARD CURRENT	88 mA
FORWARD VOLTAGE DROP	77 V
<i>Flyback service; soft-X-ray warning.</i>	

3AT2 is described in the supplied Tung-Sol datasheet as a flyback high-voltage rectifier. Published electrical ratings and operating characteristics were extracted from the supplied source.

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1961 Tung Sol

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

1961 TUNG SOL

Section 1 · Rectifier

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak inverse plate voltage	30000 V	FlybackRectifier
Peak plate current	88 mA	FlybackRectifier
DC plate current	1.7 mA	FlybackRectifier

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate to heater cathode and internal shield	1.5 pF	—

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1966 Tung Sol Electronic Tubes 1 of 4

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

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	3.15 V	Published heater rating
Heater current	600 mA	Published heater rating

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak inverse plate voltage	30000 V	FlybackRectifier

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak plate current	88 mA	FlybackRectifier
DC plate current	1.7 mA	FlybackRectifier


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

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Tube Voltage Drop	77 V	I _b =7mA


SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

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) – published value 1	3.15 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
Voltage (AC or DC) – published value 2	0.32 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
Voltage (AC or DC) – published value 3	0 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Current at heater volts =3.15 – published value 1	0 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
Current at heater volts =3.15 – published value 2	3.15 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
Current at heater volts =3.15 – published value 3	0.22 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
Direct Interelecirode Capacitance (Approx.):a – published value 1	0	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
Direct Interelecirode Capacitance (Approx.):a – published value 2	0	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
Pin 1 -Heater, Cathode, – published value 1	1	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
Pin 1 -Heater, Cathode, – published value 2	0	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
Pin 8 -Heater	8	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
Pin 12 -Heater	12	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
Average Plate Current	1.7 mA	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
This rating is appl icable when the duration of the voltage pul se does – published value 1	0 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
This rating is appl icable when the duration of the voltage pul se does – published value 2	0 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
This rating is appl icable when the duration of the voltage pul se does – published value 3	0 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
The high voltages at which the gAT2 is operated are very – published value 1	0 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
The high voltages at which the gAT2 is operated are very – published value 2	2 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
The high voltages at which the gAT2 is operated are very – published value 3	0 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
high voltages. Particular care against fatal shock should be – published value 1	0 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
high voltages. Particular care against fatal shock should be – published value 2	0 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
high voltages. Particular care against fatal shock should be – published value 3	0 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
taken in the measurement of heater voltage. Under all circumstances – published value 1	0 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
taken in the measurement of heater voltage. Under all circumstances – published value 2	0 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
X-radiation. The voltages employed in some television – published value 1	0 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
X-radiation. The voltages employed in some television – published value 2	0 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
X-radiation. The voltages employed in some television – published value 3	0 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
receivers and other high-voltage equipment are sufficiently – published value 1	0	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
receivers and other high-voltage equipment are sufficiently – published value 2	0	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
high that high-voltage rectifier tubes may produce X-radiation – published value 1	0 mA	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
high that high-voltage rectifier tubes may produce X-radiation – published value 2	0 mA	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
high that high-voltage rectifier tubes may produce X-radiation – published value 3	0 mA	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak Inverse Plate Voltage° – published value 1	0 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
Peak Inverse Plate Voltage° – published value 2	30000 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
Peak Inverse Plate Voltage° – published value 3	0 V	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
Peak Plate Current	88 mA	Published datasheet value; multiple numbers on a row represent separate source limits or conditions.
Peak inverse plate voltage	30000 V	Explicitly published rectifier rating/characteristic.
Peak plate current	88 mA	Explicitly published rectifier rating/characteristic.
Average plate current	1.7 mA	Explicitly published rectifier rating/characteristic.