

ELECTRONIC TUBE REFERENCE

6CN7

Voltage - Triode (with diode, heptode or hexode) electronic tube

CONSOLIDATED TECHNICAL DATA

3 SECTIONS
CONSTRUCTION
DIODE-DIODE-TRIODE

Double-diode high-mu triode for detector, discriminator, control-voltage, and voltage-amplifier service. Paired diodes provide complementary rectification while the triode supplies substantial subsequent gain.

GENERAL CHARACTERISTICS

BASE DESIGNATION	9EF	BASE PINS	9
NOMINAL HEATER	6.3 V / 300 mA	PARALLEL HEATER	3.15 V / 600 mA
HEATING	Indirect	SERIES OPERATION	Capable
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Dissimilar

9EF - TERMINAL PINOUT

TERMINAL	SECTION	ELEMENT	STATUS
PIN1	B	P – Plate (Anode)	CONNECTED
PIN3	B	G1 – Control Grid	CONNECTED
PIN4	–	H – Heater	CONNECTED
PIN5	–	H – Heater	CONNECTED
PIN6	A	P – Plate (Anode)	CONNECTED
PIN7	A	G1 – Control Grid	CONNECTED
PIN8	A	K – Cathode	CONNECTED
PIN9	B	K – Cathode	CONNECTED

SECTION RATINGS

SECTION1 Diode	
MAXIMUM CATHODE CURRENT	20 mA
<i>Representative of two identical diode sections; 5 mA continuous current rating retained as parameter.</i>	

SECTION2 Triode	
PLATE RESISTANCE	58000 Ω
TRANSCONDUCTANCE	0.0012 S
AMPLIFICATION FACTOR	70
MAXIMUM PLATE VOLTAGE	300 V
MAXIMUM PLATE DISSIPATION	1 W
<i>Published promoted values applied where applicable; additional ratings and operating data retained as parameters.</i>	

SECTION3 Diode	
MAXIMUM CATHODE CURRENT	5 mA
<i>Detector diode #2; maximum continuous diode current 5 mA.</i>	

Miniature type used as combined horizontal phase de- OLIM/ @y372 -MK© ZvfL-, ^JJiET tector and reactance tube in color and black-and-white pd,(fa\J^ ^AS)p t television receivers. The triode unit is used in sync- p°2 0- ^0HM separator, sync-amplifier, or audio amplifier circuits.



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1965 Westinghouse Data Book

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

1965 WESTINGHOUSE DATA BOOK

Section 1 · Diode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage Series	6.3 V	—
Heater Current Series	300 mA	—
Heater Voltage Parallel	3.15 V	—
Heater Current Parallel	600 mA	—
Diode Plate-Cathode Capacitance	3.6 pF	EachDiode

1965 WESTINGHOUSE DATA BOOK

Section 2 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum Plate Voltage	330 V	—
Maximum Plate Dissipation	1.1 W	—

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-Plate Capacitance	1.8 pF	—
Input Capacitance	1.5 pF	—
Output Capacitance	0.5 pF	—



1966 Tung Sol Electronic Tubes 2 of 4

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

1966 TUNG SOL ELECTRONIC TUBES 2 OF 4

Section 1 · Diode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum continuous diode current	5 mA	—

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate-to-cathode-and-heater capacitance	3.6 pF	—

1966 TUNG SOL ELECTRONIC TUBES 2 OF 4

Section 2 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	100 V	ClassA
Grid voltage	-1 V	ClassA
Plate voltage	250 V	ClassA
Grid voltage	-3 V	ClassA
Heater warm-up time	11 s	—

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate current	0.8 mA	ClassA
Plate current	1.6 mA	ClassA

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-to-plate capacitance	1.8 pF	—
Input capacitance	1.5 pF	—
Output capacitance	0.5 pF	—

1966 TUNG SOL ELECTRONIC TUBES 2 OF 4

Section 3 · Diode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum continuous diode current	5 mA	—

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate-to-cathode-and-heater capacitance	3.6 pF	—



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1968 General Electric Co

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1968 GENERAL ELECTRIC CO

Section 1 · Diode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage Series	6.3 V	Series
Heater Current Series	300 mA	Series
Heater Voltage Parallel	3.15 V	Parallel
Heater Current Parallel	600 mA	Parallel
MaximumContinuousDiodeCurrentEach	5 mA	EachDiode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Average Diode Current At5 V	20 mA	EachDiode;PlateVoltage=5V

1968 GENERAL ELECTRIC CO

Section 2 · Triode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Resistance	58000 Ohm	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconductance	1200 μ S	—
Amplification Factor	70	—



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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 2 · Triode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Current – published value 1	40 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
Current – published value 2	300 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
Current – published value 3	20 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
Current – published value 4	300 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grid to plate	1.8 pF	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grid to cathode and heater	1.5 pF	Published datasheet value; multiple values represent separate source-table limits or conditions.
Plate to cathode and heater	0.5 pF	Published datasheet value; multiple values represent separate source-table limits or conditions.
and No.2 & internal shield, and heater	3.6 pF	Published datasheet value; multiple values represent separate source-table limits or conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
and No.2 6 internal shield, and heater – published value 1	6 pF	Published datasheet value; multiple values represent separate source-table limits or conditions.
and No.2 6 internal shield, and heater – published value 2	3.6 pF	Published datasheet value; multiple values represent separate source-table limits or conditions.
Triode grid to either diode plate – published value 1	0 pF	Published datasheet value; multiple values represent separate source-table limits or conditions.
Triode grid to either diode plate – published value 2	6 pF	Published datasheet value; multiple values represent separate source-table limits or conditions.
Plate Voltage – published value 1	100 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
Plate Voltage – published value 2	250 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
~.~ Grid Voltage – published value 1	-1 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
~.~ Grid Voltage – published value 2	3 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
Plate Resistance (Approx) – published value 1	54000 ohm	Published datasheet value; multiple values represent separate source-table limits or conditions.
Plate Resistance (Approx) – published value 2	58000 ohm	Published datasheet value; multiple values represent separate source-table limits or conditions.
Transconductance – published value 1	1300	Published datasheet value; multiple values represent separate source-table limits or conditions.
Transconductance – published value 2	1200	Published datasheet value; multiple values represent separate source-table limits or conditions.
Plate Current – published value 1	0.8 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
Plate Current – published value 2	1 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Pin 1 -Diode-No.2 – published value 1	1	Published datasheet value; multiple values represent separate source-table limits or conditions.
Pin 1 -Diode-No.2 – published value 2	4	Published datasheet value; multiple values represent separate source-table limits or conditions.
Plate	5	Published datasheet value; multiple values represent separate source-table limits or conditions.
Pin 3 -Cathode of – published value 1	3	Published datasheet value; multiple values represent separate source-table limits or conditions.
Pin 3 -Cathode of – published value 2	7	Published datasheet value; multiple values represent separate source-table limits or conditions.
Diodes No.1	8	Published datasheet value; multiple values represent separate source-table limits or conditions.
& No.2,	9	Published datasheet value; multiple values represent separate source-table limits or conditions.
Plate Current for plate volts = 5 – published value 1	5 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
Plate Current for plate volts = 5 – published value 2	20 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
heater amperes = 0.600	600 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
heater amperes = 0.300	300 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
respect to cathode	200 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
respect to cathode	200 V	Published datasheet value; multiple values represent separate source-table limits or conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
PLATE VOLTAGE	330 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
Positive-bias value	0 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
PLATE DISSIPATION – published value 1	1 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
PLATE DISSIPATION – published value 2	1 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
PLATE CURRENT – published value 1	5 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
PLATE CURRENT – published value 2	5 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

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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 · Diode

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid to Plate	1.8 pF	Published datasheet value
Grid to Cathode and Heater	1.5 pF	Published datasheet value
Plate to Cathode and Heater	0.5 pF	Published datasheet value
Diode-No.1 Plate to Cathode of Diodes No.1 and No	2	Published datasheet value
Diode-No	2	Published datasheet value
Triode Grid to Either Diode Plate	0.006 pF	Published datasheet value

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage	330 volts	Published datasheet value
Grid Voltage, Positive-bias value	0 volts	Published datasheet value
Plate Dissipation	1.1 watt	Published datasheet value
Plate Voltage	250 volts	Published datasheet value
Plate Resistance (Approx.)	58000 ohms	Published datasheet value
Transconductance	1200	Published datasheet value
Plate Current	1 mA	Published datasheet value
Plate Current (Each Unit)	5.5	Published datasheet value