



ELECTRONIC TUBE REFERENCE

5963

Voltage - Dual Triode (similar) electronic tube

CONSOLIDATED TECHNICAL DATA

2 SECTIONS

CONSTRUCTION

TRIODE-TRIODE

Industrial medium-mu twin triode designed for electronic-computer frequency-divider and on/off control circuits, including operation involving long periods at cutoff.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	9
NOMINAL HEATER	12.6 V / 300 mA	PARALLEL HEATER	6.3 V / 600 mA
HEATING	Indirect	SERIES OPERATION	Capable
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION1 Triode	
PLATE RESISTANCE	6600 Ω
TRANSCONDUCTANCE	0.0032 S
AMPLIFICATION FACTOR	21
MAXIMUM PLATE VOLTAGE	250 V
MAXIMUM PLATE DISSIPATION	2.5 W
MAXIMUM CATHODE CURRENT	20 mA
Representative section for two electrically identical sections.	

SECTION2 Triode	
PLATE RESISTANCE	6600 Ω
TRANSCONDUCTANCE	0.0032 S
AMPLIFICATION FACTOR	21
MAXIMUM PLATE VOLTAGE	250 V
MAXIMUM PLATE DISSIPATION	2.5 W
MAXIMUM CATHODE CURRENT	20 mA
<i>Second physical triode section; electrically identical twin section.</i>	

Industrial medium-mu twin triode designed for computer frequency-divider and on/off control service with long periods at cutoff. Extracted from the supplied RCA Receiving Tube Manual excerpt.



SOURCE OPERATING CONDITIONS

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1950 Sylvania

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1950 SYLVANIA

Section 1 · Triode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage 12.6 6.3 Volts	6.3 V	Heater Voltage 12.6 6.3 Volts
Heater Current . . 150 300 Ma	300 Ma	Heater Current . . 150 300 Ma
Plate Voltage 67.5 Volts RADIO TUBE DIVISION	67.5 V	Plate Voltage 67.5 Volts RADIO TUBE DIVISION
Grid Voltage . 0 Volts EMPORIUM, PA.	0 V	Grid Voltage . 0 Volts EMPORIUM, PA.
Place Resistance (approx.) 6600 Ohms Prepared and Released By The	6600 Ohms	Place Resistance (approx.) 6600 Ohms Prepared and Released By The
Transconductance 3200 umhos TECHNICAL PUBLICATIONS SECTION	3200 umhos	Transconductance 3200 umhos TECHNICAL PUBLICATIONS SECTION
Plate Current 8.5 Ma EMPORIUM, PENNSYLVANIA	8.5 Ma	Plate Current 8.5 Ma EMPORIUM, PENNSYLVANIA
Plate Supply Voltage 150 150 Volts	150 V	Plate Supply Voltage 150 150 Volts
Grid Voltage . e -15 0 Volts	0 V	Grid Voltage . e -15 0 Volts
Grid Circuit Resistance 47000 47000 Ohms	47000 Ohms	Grid Circuit Resistance 47000 47000 Ohms
Plate Current 0 5.1 Ma	5.1 Ma	Plate Current 0 5.1 Ma

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage 250 Volts Max.	250 V	Plate Voltage 250 Volts Max.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Dissipation 2.5 Watts Max.	2.5 W	Plate Dissipation 2.5 Watts Max.



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1961 Tung Sol

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1961 TUNG SOL

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Service	Frequency divider / on-off control	ElectronicComputerService



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SOURCE OPERATING CONDITIONS

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1971 RCA HB3 Binder 3 of 7

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

1971 RCA HB3 BINDER 3 OF 7

Section 1 · Triode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Voltage – published value 1	12.6 V	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Voltage – published value 2	10 V	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Voltage – published value 3	6.3 V	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Voltage – published value 4	10 V	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Current – published value 1	0.15	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Current – published value 2	0.3	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Grid to plate – published value 1	1.5	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Grid to plate – published value 2	1.5	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Grid to cathode and heater – published value 1	1.9	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Grid to cathode and heater – published value 2	1.9	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Plate to cathode and heater – published value 1	0.5	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Plate to cathode and heater – published value 2	0.35	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
grid of unit No.2	0.1 mA	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Plate Voltage	67.5 V	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Grid Voltage	0 V	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Amplification Factor	21 A	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Plate Resistance (Approx)	6600 ohm	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconductance	3200	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Plate Current	8.5 mA	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Pin 1 -Plate of – published value 1	1	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Pin 1 -Plate of – published value 2	6	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Pin 2 -Grid of – published value 1	2	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Pin 2 -Grid of – published value 2	7	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Pins 469 -Heater of – published value 1	469	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Pins 469 -Heater of – published value 2	9	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Pins 569 -Heater of	569	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Plate-Supply Voltage – published value 1	150 V	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Plate-Supply Voltage – published value 2	150 V	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Grid Voltage – published value 1	-15 V	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Grid Voltage – published value 2	0 V	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Plate-Circuit Resistance – published value 1	20000 ohm	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate-Circuit Resistance – published value 2	20000 ohm	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Grid-Circuit Resistance – published value 1	47000 ohm	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Grid-Circuit Resistance – published value 2	47000 ohm	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Plate Current – published value 1	0 mA	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Plate Current – published value 2	5.1 mA	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Plate Current – published value 1	1 A	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Plate Current – published value 2	50 A	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Current Between Units	50 A	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Plate Current – published value 1	2 mA	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Plate Current – published value 2	4.6 mA	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Plate Current – published value 3	5.4 mA	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Current Between Units	0.8 mA	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Note 1: For conditions with 12.6 volts on heater, plate-supply volts = – published value 1	1 V	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Note 1: For conditions with 12.6 volts on heater, plate-supply volts = – published value 2	12.6 V	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
150, grid-supply volts = – 15, plate-circuit resist anc E; (ohms) _ – published value 1	150 V	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
150, grid-supply volts = – 15, plate-circuit resist anc E; (ohms) _ – published value 2	15 V	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
20000, and grl 0-circuit resistance (onms) = u700 0	20000	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Note 2: Conditions are same as for Note i except that grid –supply	2	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
GR10-CIRCUIT RESISTANCE (OHMS)=47000	47000 ohm	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
PLATE VOLTAGE	250 V	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Negative bias value	100 V	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Positive bias value	0 V	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
PLATE DISSIPATION	2.5 mA	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
GRID INPUT	0.5 mA	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Heater negative with respect to cathode	90 V	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Heater positive with respect to cathode	90 V	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
For fixed-bias operation	0.5 mA	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
For cathode-bias operation	1 mA	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.



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 · Triode

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-to-plate capacitance	1.5 pF	EachSection
Grid-to-cathode/heater capacitance	1.9 pF	EachSection
Plate-to-cathode/heater capacitance	0.5 pF	Section1
Plate-to-cathode/heater capacitance	0.35 pF	Section2

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak cathode current	100 mA	ComputerService
Plate supply voltage	150 V	FrequencyDivider
Zero-bias plate current	5.1 mA	FrequencyDivider

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate current	8.5 mA	ClassA

TUBE TINKER

An independent reference for electronic tubes, vacuum tubes, and their source documents.

