

ELECTRONIC TUBE REFERENCE

6021

Voltage - Dual Triode (similar) electronic tube

CONSOLIDATED TECHNICAL DATA

2 SECTIONS

CONSTRUCTION

TRIODE-TRIODE

Premium subminiature medium-mu twin triode with flexible leads, intended for compact amplifier and oscillator applications and capable of operation into the hundreds-of-megahertz range.

GENERAL CHARACTERISTICS

BASE DESIGNATION	8DG	BASE PINS	8
NOMINAL HEATER	6.3 V / 300 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

8DG - TERMINAL PINOUT

TERMINAL	SECTION	ELEMENT	STATUS
PIN1 – 2P	B	P – Plate (Anode)	CONNECTED
PIN2 – 2G1	B	G1 – Control Grid	CONNECTED
PIN3 – H	–	H – Heater	CONNECTED
PIN4 – 2K	B	K – Cathode	CONNECTED
PIN5 – 1K	A	K – Cathode	CONNECTED
PIN6 – H	–	H – Heater	CONNECTED
PIN7 – 1G1	A	G1 – Control Grid	CONNECTED
PIN8 – 1P	A	P – Plate (Anode)	CONNECTED

SECTION RATINGS

SECTION1 Triode	
PLATE RESISTANCE	6500 Ω
TRANSCONDUCTANCE	0.0054 S
AMPLIFICATION FACTOR	35
MAXIMUM PLATE VOLTAGE	165 V
MAXIMUM PLATE DISSIPATION	0.7 W
MAXIMUM CATHODE CURRENT	22 mA
<i>Representative row for two electrically identical triode sections; TUBE.SectionCount remains 2.</i>	

SECTION2 Triode	
PLATE RESISTANCE	6500 Ω
TRANSCONDUCTANCE	0.0054 S
AMPLIFICATION FACTOR	35
MAXIMUM PLATE VOLTAGE	165 V
MAXIMUM PLATE DISSIPATION	0.7 W
MAXIMUM CATHODE CURRENT	22 mA
<i>Second physical triode section; electrically identical twin section.</i>	

Premium subminiature medium-mu double triode with flexible leads.



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1940 RCA

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1940 RCA

Section 1 · Triode

CHARACTERISTICS

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater or filament voltage	6.3 V	Published nominal value
Heater or filament current	300 mA	Published nominal value
Maximum operating frequency	400 MHz	Amplifier/oscillator service

OTHER

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum plate dissipation	1.1 W	Published maximum rating
Maximum altitude	60000 ft	Without pressurized chamber



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1950 Sylvania

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1950 SYLVANIA

Section 1 · Triode

CONSTRUCTION

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Premium construction	Yes	—



1958 Compagnie General

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1958 COMPAGNIE GENERAL

Section 1 · Triode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage	6.3 V	—
Heater Current	300 mA	—
Grid-to-Plate Capacitance	1.5 pF	Each section; without shield
Input Capacitance	2.4 pF	Each section; without shield



SOURCE DATA APPENDIX

195X General Electric Essential Characteristics

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195X GENERAL ELECTRIC ESSENTIAL CHARACTERISTICS

Section 1 · Triode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Input capacitance	2.4 pF	—
Output capacitance section 1	0.28 pF	Section1;Section2
Output capacitance section 2	0.32 pF	Section1;Section2
Grid-to-plate capacitance	1.5 pF	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	100 V	ClassA;PerSection
Cathode resistor	150 ohm	ClassA;PerSection
Plate current	6.5 mA	ClassA;PerSection

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate resistance	6500 ohm	ClassA;PerSection
Transconductance	5400 uS	ClassA;PerSection
Amplification factor	35	ClassA;PerSection


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1960 RCA Industrial and Communications Types

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1960 RCA INDUSTRIAL AND COMMUNICATIONS TYPES

Section 1 · Triode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage	6.3 V	—
Heater Current	300 mA	—
Plate Voltage	165 V	Each section
Plate Current	6.5 mA	Each section
Transconductance	5400 uS	Each section
Plate Resistance	6500 ohm	Each section
Amplification Factor	35 ratio	Each section


SOURCE DATA APPENDIX

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1961 Tung Sol

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1961 TUNG SOL

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum Plate Current	22 mA	EachSection
Maximum Grid Resistance	1.1 Mohm	EachSection



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1963 Philips Electron Tubes Handbook V1

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1963 PHILIPS ELECTRON TUBES HANDBOOK V1

Section 1 · Triode

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid capacitance	2.4 pF	EachSection
Plate capacitance	0.28 pF	EachSection
Grid-to-plate capacitance	1.5 pF	EachSection

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	100 V	EachSection
Cathode resistor	150 Ω	EachSection
Plate current	6.5 mA	EachSection
Shock resistance approximately	600 g	SpecialQuality
Vibration resistance	2.5 g	SpecialQuality

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconductance	5400 μ S	EachSection
Amplification factor	35	EachSection
Plate resistance	6500 Ω	EachSection

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Cutoff grid voltage	-6.5 V	EachSection



SOURCE OPERATING CONDITIONS

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1963 Philips Electron Tubes Handbook V3

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1963 PHILIPS ELECTRON TUBES HANDBOOK V3

Section 1 · Triode

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid capacitance	2.4 pF	EachSection
Plate capacitance	0.28 pF	EachSection
Grid-to-plate capacitance	1.5 pF	EachSection

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	100 V	EachSection
Cathode resistor	150 Ω	EachSection
Plate current	6.5 mA	EachSection
Shock resistance approximately	600 g	SpecialQuality
Vibration resistance	2.5 g	SpecialQuality

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconductance	5400 μ S	EachSection
Amplification factor	35	EachSection
Plate resistance	6500 Ω	EachSection
Cutoff grid voltage	-6.5 V	EachSection
Transconductance variation after 1000 hours maximum	25 %	LifeTest

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1968 General Electric Co

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1968 GENERAL ELECTRIC CO

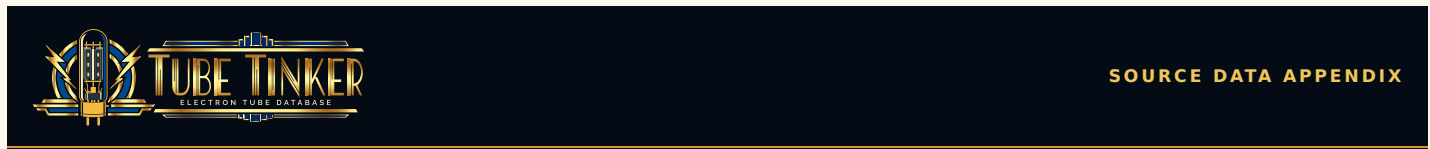
Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
HeaterOrFilamentVoltageNominal	6.3 V	—
HeaterOrFilamentCurrentNominal	300 mA	—
Maximum Plate Voltage	165 V	—
Maximum Plate Dissipation	0.7 W	—
Maximum Cathode Current	22 mA	—
Typical Plate Voltage	100 V	EachSection
TypicalCathodeBiasResistance	150 Ohm	EachSection
Typical Plate Current	6.5 mA	EachSection
MaximumGridCurrentEachSection	5.5 mA	—
MaximumAltitude	60000 ft	—
LifeExpectancyAt30C	6000 h	—
LifeExpectancyAt175C	1000 h	—

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Resistance	6500 Ohm	—
Transconductance	5400 uS	—
Amplification Factor	35	—

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid To Plate Capacitance	1.4 pF	EachSection;WithShield
Input Capacitance	2.1 pF	EachSection;WithShield
Output Capacitance Section1	1.3 pF	WithShield

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Output Capacitance Section2	1.4 pF	WithShield
GridToGridCapacitanceMaximum	0.011 pF	WithShield
PlateToPlateCapacitanceMaximum	0.33 pF	WithShield



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	6.3 V	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Current	300 mA	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Grid to plate (Each unit) – published value 1	1.5	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Grid to plate (Each unit) – published value 2	1.4	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Plate–Supply Voltage	100 V	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Plate Resistance (Approx.)	6500 ohm	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Transconductance	5400	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Plate Current	6.5 mA	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
plate current of 10 μ a – published value 1	10 V	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
plate current of 10 μ a – published value 2	6.5 V	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Lead 1 – Plate of	5	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Lead 2 –Grid of – published value 1	2	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Lead 2 –Grid of – published value 2	6	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Unit No.2	7	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Lead 3 –Heater	3	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Lead 4 –Cathode of – published value 1	4	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid to grid – published value 1	0 mA	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Grid to grid – published value 2	13 mA	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Grid to grid – published value 3	0.011 mA	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Plate to plate – published value 1	0.52 mA	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Plate to plate – published value 2	0.33 mA	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.

SOURCE OPERATING CONDITIONS

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1999 Philips 0-D

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

1999 PHILIPS 0-D

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Anode current	6.5 mA	Typical per section
Grid-cathode-heater capacitance	2.4 pF	Interelectrode
Anode-cathode-heater capacitance	0.28 pF	Interelectrode
Anode-grid capacitance	1.6 pF	Interelectrode