

ELECTRONIC TUBE REFERENCE

6111

Voltage - Dual Triode (similar high frequency) electronic tube

CONSOLIDATED TECHNICAL DATA
2 SECTIONS
CONSTRUCTION
TRIODE-TRIODE

Subminiature high-mu twin triode intended for UHF amplification, combining two compact triode sections for high-frequency electronic equipment where small size is important.

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	4000 Ω
TRANSCONDUCTANCE	0.005 S
AMPLIFICATION FACTOR	20
MAXIMUM PLATE VOLTAGE	165 V
MAXIMUM PLATE DISSIPATION	0.95 W
MAXIMUM CATHODE CURRENT	22 mA
MAXIMUM HEATER-CATHODE VOLTAGE	200 V
<i>Representative row for two electrically identical triode sections; TUBE.SectionCount remains 2.</i>	

SECTION2 Triode	
PLATE RESISTANCE	4000 Ω
TRANSCONDUCTANCE	0.005 S
AMPLIFICATION FACTOR	20
MAXIMUM PLATE VOLTAGE	165 V
MAXIMUM PLATE DISSIPATION	0.95 W
MAXIMUM CATHODE CURRENT	22 mA
<i>Second physical triode restored under current one-row-per-physical-section policy.</i>	

The 6111 is a subminiature medium-mu twin triode with independent sections for general-purpose amplification and combined oscillator/mixer service in high-frequency circuits.

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1940 RCA

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

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
Transconductance	5000 μ S	Published operating characteristic
Amplification factor	20	Published operating characteristic

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum plate dissipation	1.1 W	Published maximum rating
Maximum altitude	60000 ft	Full ratings without pressurization
Application	VHF amplifier and oscillator	Published

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1958 Compagnie General

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

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

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Input Capacitance	1.9 pF	Each section; without shield



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

195X General Electric Essential Characteristics

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

195X GENERAL ELECTRIC ESSENTIAL CHARACTERISTICS

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum plate voltage	165 V	Published handbook rating
Plate voltage	100 V	ClassA
Plate current	8.5 mA	ClassA

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate resistance	4000 ohm	Published handbook characteristic
Transconductance	5000 μ S	Published handbook characteristic
Amplification factor	20	Published handbook characteristic
Heater/filament voltage	6.3 V	Published heater/filament rating
Heater/filament current	300 mA	Published heater/filament rating



SOURCE OPERATING CONDITIONS

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1960 RCA Industrial and Communications Types

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

1960 RCA INDUSTRIAL AND COMMUNICATIONS TYPES

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage	6.3 V	—
Heater Current	300 mA	—



SOURCE DATA APPENDIX

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.

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
ImpactAcceleration	450 g	—
FatigueAcceleration	2.5 g	—
AltitudeRating	60000 ft	—
Service	General-purpose amplifier or oscillator-mixer	—



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

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1966 Tung Sol Electronic Tubes 4 of 4

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

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-to-plate capacitance each section	1.5 pF	WholeTube

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Input capacitance each section	2.9 pF	WholeTube
Grid-to-grid capacitance maximum	0.011 pF	WholeTube
Plate-to-plate capacitance maximum	0.5 pF	WholeTube

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum plate voltage	165 V	WholeTube
Maximum negative DC grid voltage	55 V	WholeTube
Maximum plate dissipation	0.95 W	WholeTube
Maximum DC plate current	22 mA	WholeTube
Maximum DC grid current	5.5 mA	WholeTube
Maximum heater-cathode voltage	200 V	WholeTube
Plate voltage	100 V	ClassA1
Cathode-bias resistor	220 ohm	ClassA1
Amplification factor	20	ClassA1
Plate resistance	4000 ohm	ClassA1
Transconductance	5000 uS	ClassA1
Plate current	8.5 mA	ClassA1
Grid voltage at 10 uA plate current	-9 V	ClassA1



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

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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 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
HeaterOrFilamentVoltageNominal	6.3 V	—
HeaterOrFilamentCurrentNominal	300 mA	—
Maximum Plate Voltage	165 V	—
Maximum Plate Dissipation	0.95 W	—
Maximum Cathode Current	22 mA	—
Typical Plate Voltage	100 V	ClassA;EachSection
TypicalCathodeBiasResistance	220 0hm	ClassA;EachSection
Typical Plate Current	8.5 mA	ClassA;EachSection
MaximumGridCurrentEachGrid	5.5 mA	—
Maximum Heater Cathode Voltage	200 V	EitherPolarity
MaximumGridCircuitResistance	1.1 MOhm	—
TypicalGridVoltage	-9 V	IbApprox10uA
LifeExpectancyAt30C	5000 h	—
LifeExpectancyAt175C	1000 h	—

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Resistance	4000 0hm	—
Transconductance	5000 uS	—
Amplification Factor	20	—

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
Output Capacitance Section2	1.4 pF	WithShield
GridToGridCapacitanceMaximum	0.01 pF	—
PlateToPlateCapacitanceMaximum	0.3 pF	—

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
Intended for applications at altitudes up to 60,000 feet where – published value 1	60 ft	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Intended for applications at altitudes up to 60,000 feet where – published value 2	0 ft	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
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)	4000 ohm	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Transconductance	5000 uS	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.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Lead 1 –Plate of – published value 1	1	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Lead 1 –Plate of – published value 2	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.
Lead 4 –Cathode of – published value 2	8	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
For operation at altitudes up to 60,000 feet – published value 1	60 ft	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
For operation at altitudes up to 60,000 feet – published value 2	0 ft	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.
Negative bias value	55 V	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Heater negative with respect to cathode	200 V	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Heater Current – published value 1	1 mA	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Current – published value 2	280 mA	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Heater Current – published value 3	320 mA	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Grid to plate – published value 1	2	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Grid to plate – published value 2	1.2	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Grid to plate – published value 3	1.8	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Grid to cathode and heater – published value 1	2	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
PLATE VOLTAGE	165 V	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
PLATE DISSIPATION	1.1 mA	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Heater positive with respect to cathode	200 V	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
For cathode-bias operation – published value 1	1 mA	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
For cathode-bias operation – published value 2	2 mA	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.

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