

ELECTRONIC TUBE REFERENCE

6DT8

Voltage - Dual Triode (similar high frequency) electronic tube

CONSOLIDATED TECHNICAL DATA

2 SECTIONS

CONSTRUCTION

TRIODE-TRIODE

Dissimilar twin triode intended for FM and television tuner circuits, combining high-frequency amplification with oscillator or mixer functions in receiver front ends.

GENERAL CHARACTERISTICS

BASE DESIGNATION	9DE	BASE PINS	9
NOMINAL HEATER	6.3 V / 300 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

9DE - TERMINAL PINOUT

TERMINAL	SECTION	ELEMENT	STATUS
PIN1 – 2P	B	P – Plate (Anode)	CONNECTED
PIN2 – 2G1	B	G1 – Control Grid	CONNECTED
PIN3 – 2K	B	K – Cathode	CONNECTED
PIN4 – H	–	H – Heater	CONNECTED
PIN5 – H	–	H – Heater	CONNECTED
PIN6 – 1P	A	P – Plate (Anode)	CONNECTED
PIN7 – 1G1	A	G1 – Control Grid	CONNECTED
PIN8 – 1K	A	K – Cathode	CONNECTED
PIN9 – IS	A	IS – Internal Screen	CONNECTED

SECTION RATINGS

SECTION1 Triode	
PLATE RESISTANCE	10900 Ω
TRANSCONDUCTANCE	0.0055 S
AMPLIFICATION FACTOR	60
MAXIMUM PLATE VOLTAGE	300 V
MAXIMUM PLATE DISSIPATION	2.5 W
MAXIMUM CATHODE CURRENT	15 mA
<i>Representative of two identical sections; characteristics promoted from 250 V operating column.</i>	

SECTION2 Triode	
PLATE RESISTANCE	10900 Ω
TRANSCONDUCTANCE	0.0055 S
AMPLIFICATION FACTOR	60
MAXIMUM PLATE VOLTAGE	300 V
MAXIMUM PLATE DISSIPATION	2.5 W
MAXIMUM CATHODE CURRENT	15 mA
<i>Second physical triode section; electrically identical twin section.</i>	

Twin triode used in VHF tuner and oscillator service; the approved entry supplies heater and interelectrode-capacitance data for the 6DT8/12DT8 pair.



SOURCE OPERATING CONDITIONS

1940 RCA

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

1940 RCA

Section 1 · Triode

APPLICATION		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Application	RF_Amplifier_Oscillator_Mixer text	—



SOURCE OPERATING CONDITIONS

SOURCE PDF

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 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate supply voltage	200 V	ClassA1;EachUnit
Cathode bias resistor	270 ohm	ClassA1;EachUnit
Plate current	3.7 mA	ClassA1;EachUnit
Maximum grid voltage, negative bias	50 V	EachUnit
Maximum heater-cathode voltage, heater negative	200 V	EachUnit
Maximum heater-cathode voltage, heater positive total	200 V	EachUnit

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-to-plate capacitance	1.6 pF	EachUnit
Grid-to-cathode/heater/shield capacitance	2.7 pF	EachUnit
Plate-to-cathode/heater/shield capacitance	1.6 pF	EachUnit



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 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
HeaterVoltageNominal	6.3 V	—
HeaterCurrentNominal	300 mA	—

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Resistance	10900 Ohm	—
Transconductance	5500 uS	—
Amplification Factor	60	—
Plate Resistance	15000 Ohm	PlateVoltage=100V
Transconductance	4000 uS	PlateVoltage=100V
Plate Resistance	10900 Ohm	PlateVoltage=250V
Transconductance	5500 uS	PlateVoltage=250V



SOURCE DATA APPENDIX

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 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	6.3 V	—
Heater current	300 mA	—
Plate-supply voltage	100 V	EachSection
Cathode resistor	270 ohm	EachSection
Plate current	3.7 mA	EachSection
Plate-supply voltage	250 V	EachSection
Cathode resistor	200 ohm	EachSection
Plate current	10 mA	EachSection
Maximum plate voltage	300 V	EachSection
Plate dissipation	2.5 W	EachSection

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Amplification factor	60	EachSection
Plate resistance	15000 ohm	EachSection
Transconductance	4000 uS	EachSection
Plate resistance	10900 ohm	EachSection
Transconductance	5500 uS	EachSection

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-to-plate capacitance	1.6 pF	EachSection



SOURCE DATA APPENDIX

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

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage (ac/dc) 6.3	12.6 V	Published in approved 12DT8 target entry; Section1
Heater Current 0.3	150 mA	Published in approved 12DT8 target entry; Section1
Nuvistor type used at frequencies up to	1000 MHz	Published in approved 12DT8 target entry; Section1
2.1	6.3 V	Published in approved 12DT8 target entry; Section1
0.45	135 mA	Published in approved 12DT8 target entry; Section1
Heater Warm-up Time (Average)	8 seconds	Published in approved 12DT8 target entry; Section1
Plate Supply Voltage	300 V	Published in approved 12DT8 target entry; Section1
Plate Voltage	125 V	Published in approved 12DT8 target entry; Section1
Negative-bias value	55 V	Published in approved 12DT8 target entry; Section1
Peak positive value	2 V	Published in approved 12DT8 target entry; Section1
Plate Dissipation	1 W	Published in approved 12DT8 target entry; Section1
Cathode Current	15 mA	Published in approved 12DT8 target entry; Section1
Cathode-Bias Resistor	100 Ω	Published in approved 12DT8 target entry; Section1
Plate Resistance (Approx.)	3100 Ω	Published in approved 12DT8 target entry; Section1
TYPICAL OPERATION AS OSCILLATOR AT	950 MHz	Published in approved 12DT8 target entry; Section1

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage	60 V	Published in approved 12DT8 target entry; Section1
Grid Voltage	-2 V	Published in approved 12DT8 target entry; Section1
Grid Resistor	5600 Ω	Published in approved 12DT8 target entry; Section1
Plate Current	8 mA	Published in approved 12DT8 target entry; Section1

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid to Plate	1.8 pF	Published in approved 12DT8 target entry; Section1
Grid to Cathode, Heater, and Shell	4.4 pF	Published in approved 12DT8 target entry; Section1
Plate to Cathode, Heater, and Shell	1.9 pF	Published in approved 12DT8 target entry; Section1
Plate to Cathode	0.25 pF	Published in approved 12DT8 target entry; Section1
Grid to Cathode	3.7 pF	Published in approved 12DT8 target entry; Section1

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Current	10.5 mA	Published in approved 12DT8 target entry; Section1
Grid Voltage (Approx.) for plate current of 10 /xA	7 V	Published in approved 12DT8 target entry; Section1

TUBE TINKER

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