

ELECTRONIC TUBE REFERENCE

CONSOLIDATED TECHNICAL DATA
1 SECTION
CONSTRUCTION
TRIODE

6C4

Power - Triode Single (under 10W) electronic tube

Power triode intended for radio-frequency amplifier and oscillator service. Manufacturer documentation emphasizes RF power operation and transmitting applications rather than ordinary receiving-tube voltage amplification.

GENERAL CHARACTERISTICS

BASE DESIGNATION	6BG	BASE PINS	7
NOMINAL HEATER	6.3 V / 150 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

6BG - TERMINAL PINOUT

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

SECTION RATINGS

SECTION1 Triode	
PLATE RESISTANCE	7700 Ω
TRANSCONDUCTANCE	0.0022 S
AMPLIFICATION FACTOR	17
MAXIMUM PLATE VOLTAGE	300 V
MAXIMUM PLATE DISSIPATION	5 W
MAXIMUM CATHODE CURRENT	25 mA
<i>Published characteristics include alternate operating point</i>	

Miniature power triode used as a cascode amplifier in VHF color television and other RF service.



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1958 Brimar Radio Valve No 7

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

1958 BRIMAR RADIO VALVE NO 7

Section 1 · Triode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage	6.3 V	—
Heater Current	150 mA	—
MaximumOperatingFrequency	150 MHz	OscillatorOrPowerAmplifier



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	300 V	Published handbook rating
Plate voltage	250 V	ClassA
Control-grid bias	8.5 V	ClassA
Plate current	10.5 mA	ClassA

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate resistance	7700 ohm	Published handbook characteristic

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconductance	2200 μ S	Published handbook characteristic
Amplification factor	17	Published handbook characteristic
Heater voltage	6.3 V	Published heater rating
Heater current	150 mA	Published heater rating

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Input capacitance	1.8 pF	Published capacitance column
Output capacitance	1.3 pF	Published capacitance column
Grid-to-plate capacitance	1.6 pF	Published capacitance column



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1961 Ferranti Technical Handbook

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

1961 FERRANTI TECHNICAL HANDBOOK

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	100 V	ClassA
Control-grid voltage	0 V	ClassA
Plate current	11.8 mA	ClassA
Plate voltage	250 V	ClassA
Control-grid voltage	-8.5 V	ClassA
Plate current	10.5 mA	ClassA
Plate voltage	300 V	ClassC;RFAmplifier;Telegraphy
Plate current	25 mA	ClassC;RFAmplifier;Telegraphy
Control-grid voltage	-27 V	ClassC;RFAmplifier;Telegraphy
Grid current	7 mA	ClassC;RFAmplifier;Telegraphy
Drive power	0.35 W	ClassC;RFAmplifier;Telegraphy
RF output power	5.5 W	ClassC;RFAmplifier;Telegraphy

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconductance	3100 μ S	ClassA;Va=100V
Plate resistance	6250 Ω m	ClassA;Va=100V
Amplification factor	19.5 ratio	ClassA;Va=100V
Transconductance	2200 μ S	ClassA;Va=250V
Plate resistance	7700 Ω m	ClassA;Va=250V
Amplification factor	17 ratio	ClassA;Va=250V

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Input capacitance	1.8 pF	—
Output capacitance	3 pF	—


SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

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1961 Tung Sol

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

1961 TUNG SOL

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	6.3 V	—
Heater current	150 mA	—
Plate voltage	300300 V	Typical operating conditions
Plate current	25 mA	Typical operating conditions


SOURCE DATA APPENDIX

1966 Tung Sol Electronic Tubes 1 of 4

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

1966 TUNG SOL ELECTRONIC TUBES 1 OF 4
Section 1 · Triode

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
GRID TO PLATE: (G TO Pj	1.6 μμf	Capacitances GRID TO PLATE: (G TO Pj 1.4 1.6 μμf
OUTPUT: P TO (H}KJ	1.3 μμf	Capacitances OUTPUT: P TO (H}KJ 2.5 1.3 μμf

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
HEATER VOLTAGE	6.3 V	ClassA HEATER VOLTAGE 6.3 VOLTS
F fXED BIAS OPERATION	0.25 Mohm	ClassA F fXED BIAS OPERATION 0.25 0.25 MEGOHM
HEATER VOLTAGE	6.3 V	ClassA HEATER VOLTAGE 6.3 6.3 VOLTS
HEATER CURRENT	150 mA	ClassA HEATER CURRENT 0.15 0.15 AMP.
GRID VOLTA GE B O	-8.5 V	ClassA GRID VOLTA GE B O -8.5 VOLTS
PLATE CURRENT	10.5 mA	ClassA PLATE CURRENT 11.8 10.5 MA.
GRID VOLTAGE FOR i b	-25 V	ClassA GRID VOLTAGE FOR i b = 10 (.LA. (APPROX.) -10 -25 VOLTS
HEATER CURRENT	150 mA	ClassC HEATER CURRENT 0.15 AMP.
PLATE VOLTAGE	300 V	ClassC PLATE VOLTAGE 300 voLTs
GRID VOLTAGE –	27 V	ClassC GRID VOLTAGE —27 VOLTS
PLATE CURRENT	25 mA	ClassC PLATE CURRENT 25 MA.
GRID CURRENT (APPROX.)	7 mA	ClassC GRID CURRENT (APPROX.) 7 MA.
GRID DRIVING POWER (APPRO%.)	0.35 W	ClassC GRID DRIVING POWER (APPRO%.) 0.35 WATT
C APPROXIMATELY	150 MHz	ClassC C APPROXIMATELY 2.5 MATTS OUTPUT GAM BE OBTAINED WHEN THE 6C4 15 USED AT 150 MEGACYCLES AS AX
O S[ILI ATOR MITM A GRID RESISTOR OF	10 ohm	ClassC O S[ILI ATOR MITM A GRID RESISTOR OF 10.000 OHMS AND WITH MA %INUY RATED INPUT.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
GAIN MEASURED AT E	2 V	ClassC GAIN MEASURED AT E = 2.0 VOLTS RMS OUTPUT.

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
MAXIMUM PLATE DISSIPATION	5 W	ClassA MAXIMUM PLATE DISSIPATION 3.5 5 WATTS
MAXIMUM DC PLATE CURRENT	25 mA	ClassA MAXIMUM DC PLATE CURRENT --- 25 MA.



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

SOURCE PDF

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

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid to plate	1.6 pF	—
Grid to cathode and heater	1.8 pF	—
Plate to cathode and heater	1.3 pF	—

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage	100 V	Published table column 1 of 2
Plate Voltage	250 V	Published table column 2 of 2
Grid Voltage	0 V	Published table column 1 of 2
Grid Voltage	8.5 V	Published table column 2 of 2
Plate Resistance (Approx.)	6250 Ω	Published table column 1 of 2
Plate Resistance (Approx.)	7700 Ω	Published table column 2 of 2
Transconductance	3100 μS	Published table column 1 of 2
Transconductance	2200 μS	Published table column 2 of 2
Plate Current	11.8 mA	Published table column 1 of 2

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Current	10.5 mA	Published table column 2 of 2
For fixed-bias operation	0 MΩ	Published table column 1 of 2
For fixed-bias operation	25 MΩ	Published table column 2 of 2
For cathode-bias operation	1 MΩ	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
DC PLATE VOLTAGE	300 V	—
DC GRID VOLTAGE	-50 V	—
DC PLATE CURP.ENT	25 mA	—
DC GRID CURRENT	8 mA	—
PLATE DISSIPATION	5 W	—


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

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage (ac/dc)	6.3 V	Published in approved 6C4 target datasheet entry; Section1
Heater Current	150 mA	Published in approved 6C4 target datasheet entry; Section1
Grid to Plate 1.6	1.4 pF	Published in approved 6C4 target datasheet entry; Section1
Grid to Cathode and Heater 1.8	1.8 pF	Published in approved 6C4 target datasheet entry; Section1
Plate to Cathode and Heater 1.3	2.5 pF	Published in approved 6C4 target datasheet entry; Section1

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage 100	250 V	Published in approved 6C4 target datasheet entry; Section1
Grid Voltage* 0	-8.5 V	Published in approved 6C4 target datasheet entry; Section1
Plate Resistance (Approx.) 6250	7700 Ω	Published in approved 6C4 target datasheet entry; Section1
Plate Current 11.8	10.5 mA	Published in approved 6C4 target datasheet entry; Section1
Grid Voltage (Approx.) for plate current of 10 nA -10	-25 V	Published in approved 6C4 target datasheet entry; Section1
For fixed bias operation	0.25 MΩ	Published in approved 6C4 target datasheet entry; Section1
For cathode-bias operation	1 MΩ	Published in approved 6C4 target datasheet entry; Section1
Plate Current	25 mA	Published in approved 6C4 target datasheet entry; Section1
TYPICAL OPERATION AT FREQUENCIES UP TO	50 MHz	Published in approved 6C4 target datasheet entry; Section1
Plate Voltage	-300 V	Published in approved 6C4 target datasheet entry; Section1
Grid Voltage	27 V	Published in approved 6C4 target datasheet entry; Section1
Plate Current	25 mA	Published in approved 6C4 target datasheet entry; Section1
Grid Current (Approx.)	7 mA	Published in approved 6C4 target datasheet entry; Section1
Driving Power (Approx.)	0.35 W	Published in approved 6C4 target datasheet entry; Section1
Power Output (Approx.)*	5.5 W	Published in approved 6C4 target datasheet entry; Section1

TUBE TINKER

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