

ELECTRONIC TUBE REFERENCE

6HM5

Voltage - Triode (single high frequency) electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

TRIODE

Miniature triode used as an RF amplifier in VHF color and black-and-white television tuners.

GENERAL CHARACTERISTICS

BASE DESIGNATION	7GM	BASE PINS	7
NOMINAL HEATER	6.3 V / 180 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

7GM - TERMINAL PINOUT

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

SECTION RATINGS

SECTION1 Triode	
PLATE RESISTANCE	5000 Ω
TRANSCONDUCTANCE	0.018 S
AMPLIFICATION FACTOR	82
MAXIMUM PLATE VOLTAGE	200 V
MAXIMUM PLATE DISSIPATION	2.2 W
MAXIMUM CATHODE CURRENT	20 mA
<i>VHF grounded-cathode RF amplifier.</i>	

Miniature triode used as an RF amplifier in VHF color and black-and-white television tuners.

SOURCE OPERATING CONDITIONS

1947 Westinghouse

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

1947 WESTINGHOUSE

Section 1 · Triode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater or filament voltage	6.3 V	Published nominal/representative value
Heater or filament current	185 mA	Published nominal/representative value
Transconductance	18000 μ S	Published
Amplification factor	82	Published/promoted value
Transconductance	18000 μ S	120 V operating point
Amplification factor	82	120 V operating point
Noise figure	4 dB	200 MHz; optimized grounded-cathode stage

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum plate dissipation	2.2 W	Published
Typical plate voltage	120 V	Published condition
Typical plate current	15 mA	120 V operating point

SOURCE OPERATING CONDITIONS

1965 Sylvania Electronic Tubes Vol3

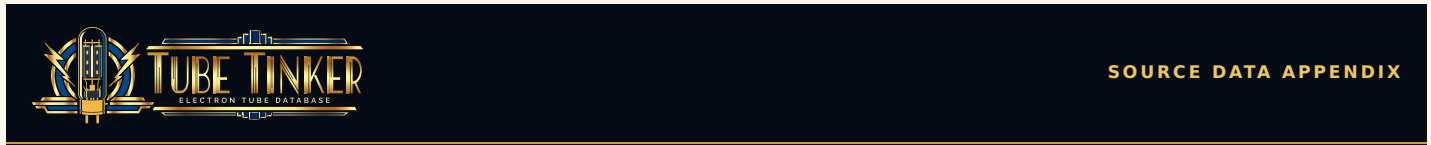
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1965 SYLVANIA ELECTRONIC TUBES VOL3

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	135 V	—
Grid voltage	-1 V	—
Plate current	12.5 mA	—

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconductance	14500 μ S	—
Amplification factor	78 ratio	—
Hot input resistance	1000 Ω m	—



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1971 RCA HB3 Binder 5 of 7

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

1971 RCA HB3 BINDER 5 OF 7

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	135 V	ClassA
Plate current	11.5 mA	ClassA
Maximum plate voltage	330 V	—
respect to cathode	110 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Heater to grid – published value 1	0 mA	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Heater to grid – published value 2	70 mA	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Supply Voltage	600 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Plate Voltage	220 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Negative-bias value	50 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Positive-bias value	0 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Cathode Current	22 mA	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Plate Dissipation	2.6 mA	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate resistance	5000 ohm	ClassA
Transconductance	14500 uS	ClassA
Amplification factor	72	ClassA
Voltage (AC or DC) – published value 1	6.3 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Voltage (AC or DC) – published value 2	0.6 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Current at heater volts = 6.3 – published value 1	6.3 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Current at heater volts = 6.3 – published value 2	0 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Current at heater volts = 6.3 – published value 3	180 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Grid to plate	0.36 pF	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
external shield, and heater	4.3 pF	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
external shield, and heater	2.9 pF	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Cathode to plate – published value 1	0 pF	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Cathode to plate – published value 2	80 pF	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
external shield, and heater	3.1 pF	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Heater to cathode	2.3 pF	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Plate Voltage	135 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Grid Voltage	-1 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Plate Resistance (Approx)	5000 ohm	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Transconductance	14500	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Plate Current	11.5 mA	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Pin 1 -Grid – published value 1	1	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Pin 1 -Grid – published value 2	5	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Pin 2 -Cathode – published value 1	2	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Pin 2 -Cathode – published value 2	6	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Pin 3 -Heater	3	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Pin 4 -Heater – published value 1	4	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Pin 4 -Heater – published value 2	7	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Grid Voltage	10 V	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Plate Load Resistance	1000 ohm	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.
Plate Resistance (Approx 1 – published value 1	1 ohm	Published datasheet value; multiple values on one source row represent separate limits or operating conditions.



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

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) 2.0 2.7 4.0	6.3 V	Published in approved 2HA5 target datasheet entry; Section1
Heater Current 0.6 0.45 0.3	180 mA	Published in approved 2HA5 target datasheet entry; Section1
DC Plate Voltage	220 V	Published in approved 2HA5 target datasheet entry; Section1

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
DC Plate Supply Voltage	600 V	Published in approved 2HA5 target datasheet entry; Section1
Grid Voltage	-50 V	Published in approved 2HA5 target datasheet entry; Section1
Cathode Current	22 mA	Published in approved 2HA5 target datasheet entry; Section1
Plate Dissipation	2.6 W	Published in approved 2HA5 target datasheet entry; Section1
DC Plate Supply Voltage 135 135 135	135 V	Published in approved 2HA5 target datasheet entry; Section1
Plate-Load Resistor 1000	5600 Ω	Published in approved 2HA5 target datasheet entry; Section1
Internal-Shield Voltage 0 0 0	0 V	Published in approved 2HA5 target datasheet entry; Section1
DC Grid Voltage -1	-2.7 V	Published in approved 2HA5 target datasheet entry; Section1
Cathode-Bias Resistor 0	87 Ω	Published in approved 2HA5 target datasheet entry; Section1
Transconductance 14500 1500 20000	14500 μS	Published in approved 2HA5 target datasheet entry; Section1
Plate Current 11.5 19	11.5 mA	Published in approved 2HA5 target datasheet entry; Section1
DC Grid Current	10 mA	Published in approved 2HA5 target datasheet entry; Section1
transconductance -5.3	-8.1 V	Published in approved 2HA5 target datasheet entry; Section1
Heater Voltage (ac/dc) '2.4 3 4.2	6.3 V	Published in approved 2HA5 target datasheet entry; Section1
Heater Current 0.6 0.45 0.3	200 mA	Published in approved 2HA5 target datasheet entry; Section1
Heater Warm-up Time (Average) .11 11	11 seconds	Published in approved 2HA5 target datasheet entry; Section1
Plate Voltage	200 V	Published in approved 2HA5 target datasheet entry; Section1
Grid Voltage, Negative-bias Value	50 V	Published in approved 2HA5 target datasheet entry; Section1
Plate Dissipation	2.5 W	Published in approved 2HA5 target datasheet entry; Section1
Plate Voltage	135 V	Published in approved 2HA5 target datasheet entry; Section1

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid Voltage	-1 V	Published in approved 2HA5 target datasheet entry; Section1

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid to Plate	0.36 pF	Published in approved 2HA5 target datasheet entry; Section1
Grid to Cathode, Heater, Internal Shield, and External Shield	4.3 pF	Published in approved 2HA5 target datasheet entry; Section1
, Shield	0.08 pF	Published in approved 2HA5 target datasheet entry; Section1
Cathode to Plate	2.9 pF	Published in approved 2HA5 target datasheet entry; Section1
Cathode to Heater, Grid, Internal Shield, and External Shield	3.1 pF	Published in approved 2HA5 target datasheet entry; Section1
Heater to Cathode	2.3 pF	Published in approved 2HA5 target datasheet entry; Section1
Grid to Plate	0.52 pF	Published in approved 2HA5 target datasheet entry; Section1
Grid to Cathode, Heater, and Internal Shield	5 pF	Published in approved 2HA5 target datasheet entry; Section1
Plate to Cathode, Heater, and Internal Shield	3.5 pF	Published in approved 2HA5 target datasheet entry; Section1
Heater to Cathode	2.5 pF	Published in approved 2HA5 target datasheet entry; Section1

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Resistance	5400 Ω	Published in approved 2HA5 target datasheet entry; Section1
Transconductance	15000 μS	Published in approved 2HA5 target datasheet entry; Section1
Plate Current	11.5 mA	Published in approved 2HA5 target datasheet entry; Section1
Input Resistance**	275 Ω	Published in approved 2HA5 target datasheet entry; Section1
Input Capacitance**	11.2 pF	Published in approved 2HA5 target datasheet entry; Section1

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid Voltage (Approx.) for transconductance of	150 μS	Published in approved 2HA5 target datasheet entry; Section1
Grid Voltage (Approx.) for transconductance of 150 /imhos	-4.2 V	Published in approved 2HA5 target datasheet entry; Section1
Grid Voltage (Approx.) for transconductance of 1500 ftmhos	-2.5 V	Published in approved 2HA5 target datasheet entry; Section1

TUBE TINKER

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