

ELECTRONIC TUBE REFERENCE

6HA5S

Voltage - Triode (single high frequency) electronic tube

CONSOLIDATED TECHNICAL DATA
1 SECTION
CONSTRUCTION
TRIODE

Electrically equivalent 6HA5-S miniature triode for RF amplification in VHF 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	4600 Ω
TRANSCONDUCTANCE	0.015 S
AMPLIFICATION FACTOR	72
MAXIMUM PLATE VOLTAGE	220 V
MAXIMUM PLATE DISSIPATION	2.6 W
MAXIMUM CATHODE CURRENT	22 mA
<i>Electrical values completed from supplied 6HM5.pdf because the supplied 6HA5S.pdf explicitly states 6HA5-S is electrically identical with 6HM5/6HA5.</i>	

Miniature type used as rf-amplifier tube in vhf tele- vision tuners. Outlines section, 5B; requires miniature 7-contact socket. Type 6HA5-S is electrically identical 7GM with type 6HM5/6HA5. For replacement use type 6HB6/6HA6.

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
Peak Heater-Cathode Voltage ±	110 volts	Peak Heater-Cathode Voltage ±110 max ±110 max ±110 max ±110 max volts [Cross-reference: 6HA5-S electrically identical with 6HM5/6HA5.]
Grid to Plate	0.36 PF	Grid to Plate 0.36 PF [Cross-reference: 6HA5-S electrically identical with 6HM5/6HA5.]
Grid to Cathode, Heater, Internal Shield, and External Shield	4.3 PF	Grid to Cathode, Heater, Internal Shield, and External Shield 4.3 PF [Cross-reference: 6HA5-S electrically identical with 6HM5/6HA5.]
Cathode to Plate	2.9 PF	Cathode to Plate 2.9 PF [Cross-reference: 6HA5-S electrically identical with 6HM5/6HA5.]
Cathode to Heater, Grid, Internal Shield, and External Shield	3.1 PF	Cathode to Heater, Grid, Internal Shield, and External Shield 3.1 PF [Cross-reference: 6HA5-S electrically identical with 6HM5/6HA5.]
Heater to Cathode	2.3 PF	Heater to Cathode 2.3 PF [Cross-reference: 6HA5-S electrically identical with 6HM5/6HA5.]
Heater to Grid	0.07 PF	Heater to Grid 0.070 max PF [Cross-reference: 6HA5-S electrically identical with 6HM5/6HA5.]
Plate Dissipation	2.6 watts	Plate Dissipation 2.6 watts [Cross-reference: 6HA5-S electrically identical with 6HM5/6HA5.]
Heater Warm-up Time (Average)	11 seconds	Heater Warm-up Time (Average) .11 11 11 seconds [Cross-reference: 6HA5-S electrically identical with 6HM5/6HA5.]
Peak Heater-Cathode Voltage ±	100 volts	Peak Heater-Cathode Voltage ±100 max t100 max ±100 max ±100 max volts [Cross-reference: 6HA5-S electrically identical with 6HM5/6HA5.]
Grid to Plate	0.52 PF	Grid to Plate 0.52 PF [Cross-reference: 6HA5-S electrically identical with 6HM5/6HA5.]

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid to Cathode, Heater, and Internal Shield	5 PF	Grid to Cathode, Heater, and Internal Shield 5 PF [Cross-reference: 6HA5-S electrically identical with 6HM5/6HA5.]
Plate to Cathode, Heater, and Internal Shield	3.5 PF	Plate to Cathode, Heater, and Internal Shield 3.5 PF [Cross-reference: 6HA5-S electrically identical with 6HM5/6HA5.]
Heater to Cathode	2.5 PF	Heater to Cathode 2.5 PF [Cross-reference: 6HA5-S electrically identical with 6HM5/6HA5.]
Plate Dissipation	2.5 watts	Plate Dissipation 2.5 watts [Cross-reference: 6HA5-S electrically identical with 6HM5/6HA5.]
Grid No	2	Grid No.2 (Beam Plate) Connected to cathode at socket [Cross-reference: 6HA5-S electrically identical with 6HM5/6HA5.]
Plate Dissipation	30 watts	Plate Dissipation 30 watts [Cross-reference: 6HA5-S electrically identical with 6HM5/6HA5.]

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
DC Plate Voltage	220 volts	DC Plate Voltage 220 volts [Cross-reference: 6HA5-S electrically identical with 6HM5/6HA5.]
DC Plate Supply Voltage	600 volts	DC Plate Supply Voltage 600 volts [Cross-reference: 6HA5-S electrically identical with 6HM5/6HA5.]
Grid Voltage	-50 volts	Grid Voltage -50 volts [Cross-reference: 6HA5-S electrically identical with 6HM5/6HA5.]
Cathode Current	22 mA	Cathode Current 22 mA [Cross-reference: 6HA5-S electrically identical with 6HM5/6HA5.]
DC Plate Supply Voltage	135 volts	DC Plate Supply Voltage 135 135 135 135 volts [Cross-reference: 6HA5-S electrically identical with 6HM5/6HA5.]
Internal-Shield Voltage	0 volts	Internal-Shield Voltage 0 0 0 0 volts [Cross-reference: 6HA5-S electrically identical with 6HM5/6HA5.]
DC Grid Voltage	-2.7 volts	DC Grid Voltage -1 -2.7 volts [Cross-reference: 6HA5-S electrically identical with 6HM5/6HA5.]
Amplification Factor	72	Amplification Factor 72 80 72 [Cross-reference: 6HA5-S electrically identical with 6HM5/6HA5.]
Transconductance	14500	Transconductance 14500 1500 20000 14500 /imhos [Cross-reference: 6HA5-S electrically identical with 6HM5/6HA5.]
Plate Current	11.5 mA	Plate Current 11.5 19 11.5 mA [Cross-reference: 6HA5-S electrically identical with 6HM5/6HA5.]

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
DC Grid Current	10 MA	DC Grid Current 10 MA [Cross-reference: 6HA5-S electrically identical with 6HM5/6HA5.]
Grid-No	1	Grid-No. 1 Voltage for one-per-cent [Cross-reference: 6HA5-S electrically identical with 6HM5/6HA5.]
transconductance	-8.1 volts	transconductance -5.3 -8.1 volts [Cross-reference: 6HA5-S electrically identical with 6HM5/6HA5.]
Plate Voltage	200 volts	Plate Voltage 200 volts [Cross-reference: 6HA5-S electrically identical with 6HM5/6HA5.]
Grid Voltage, Negative-bias Value	50 volts	Grid Voltage, Negative-bias Value 50 volts [Cross-reference: 6HA5-S electrically identical with 6HM5/6HA5.]
Cathode Current	22 mA	Cathode Current 22 mA [Cross-reference: 6HA5-S electrically identical with 6HM5/6HA5.]
Plate Voltage	135 volts	Plate Voltage 135 volts [Cross-reference: 6HA5-S electrically identical with 6HM5/6HA5.]
Grid Voltage	-1 volt	Grid Voltage -1 volt [Cross-reference: 6HA5-S electrically identical with 6HM5/6HA5.]
Amplification Factor	78	Amplification Factor 78 [Cross-reference: 6HA5-S electrically identical with 6HM5/6HA5.]
Plate Resistance	5400 ohms	Plate Resistance 5400 ohms [Cross-reference: 6HA5-S electrically identical with 6HM5/6HA5.]
Transconductance	15000	Transconductance 15000 /imhos [Cross-reference: 6HA5-S electrically identical with 6HM5/6HA5.]
Plate Current	11.5 mA	Plate Current 11.5 mA [Cross-reference: 6HA5-S electrically identical with 6HM5/6HA5.]
Input Resistance**	275 ohms	Input Resistance** 275 ohms [Cross-reference: 6HA5-S electrically identical with 6HM5/6HA5.]
Grid Voltage (Approx.) for transconductance of	-4.2 volts	Grid Voltage (Approx.) for transconductance of 150 /imhos -4.2 volts [Cross-reference: 6HA5-S electrically identical with 6HM5/6HA5.]
Grid Voltage (Approx.) for transconductance of	-2.5 volts	Grid Voltage (Approx.) for transconductance of 1500 ftmhos -2.5 volts [Cross-reference: 6HA5-S electrically identical with 6HM5/6HA5.]
Grid-Circuit Resistance, for cathode-bias operation	1 megohm	Grid-Circuit Resistance, for cathode-bias operation 1 megohm [Cross-reference: 6HA5-S electrically identical with 6HM5/6HA5.]
Pulse Plate Voltage*	3500 volts	Pulse Plate Voltage* 3500 volts [Cross-reference: 6HA5-S electrically identical with 6HM5/6HA5.]

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid- Voltage, Negative-bias value	4.4	Grid- Voltage, Negative-bias value 4.4 volts [Cross-reference: 6HA5-S electrically identical with 6HM5/6HA5.]
Peak Plate Current	300 mA	Peak Plate Current 300 mA [Cross-reference: 6HA5-S electrically identical with 6HM5/6HA5.]
Amplification Factor	300	Amplification Factor 300 [Cross-reference: 6HA5-S electrically identical with 6HM5/6HA5.]
Transconductance	65000	Transconductance +200 65000 μ mhos [Cross-reference: 6HA5-S electrically identical with 6HM5/6HA5.]
Plate Resistance (Approx.)	4600 ohms	Plate Resistance (Approx.) 4600 ohms [Cross-reference: 6HA5-S electrically identical with 6HM5/6HA5.]
Grid Voltage (Approx.) for plate current of	-13 mA	Grid Voltage (Approx.) for plate current of 1 mA -13 volts [Cross-reference: 6HA5-S electrically identical with 6HM5/6HA5.]
Peak Plate Voltage*	5500 volts	Peak Plate Voltage* 5500 volts [Cross-reference: 6HA5-S electrically identical with 6HM5/6HA5.]
Peak Plate Current	325 mA	Peak Plate Current 325 mA [Cross-reference: 6HA5-S electrically identical with 6HM5/6HA5.]
Grid-Circuit Resistance*	0.1 megohm	Grid-Circuit Resistance* 0.1 megohm [Cross-reference: 6HA5-S electrically identical with 6HM5/6HA5.]

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Input Capacitance**	11.2 pF	Input Capacitance** 11.2 pF [Cross-reference: 6HA5-S electrically identical with 6HM5/6HA5.]

TUBE TINKER

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