

ELECTRONIC TUBE REFERENCE

3HK5

Voltage - Triode (single high frequency) electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION
CONSTRUCTION
TRIODE

Sylvania 3HK5 gain-controlled VHF amplifier triode with 2.9 V 450 mA heater, high 15 mA/V transconductance and 7GM miniature seven-pin base.

GENERAL CHARACTERISTICS

BASE DESIGNATION	7GM	BASE PINS	7
NOMINAL HEATER	2.9 V / 450 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	0.015 S
AMPLIFICATION FACTOR	75
MAXIMUM PLATE VOLTAGE	200 V
MAXIMUM PLATE DISSIPATION	2.3 W
MAXIMUM CATHODE CURRENT	22 mA
<p><i>Sylvania Technical Manual 1970 pp248-249: 3HK5 gain-controlled VHF triode, E7-1 seven-pin miniature 7GM base, 2.9 V 0.45 A heater with 11 s warm-up. Design maximum plate 200 V, plate dissipation 2.3 W, DC cathode current 22 mA, negative grid voltage magnitude 50 V, maximum heater-cathode voltage ± 100 V, self-bias grid-circuit resistance 1 MΩ. Warning: control grid-cathode spacing very small; commercial tube testers should not apply more than 30 V DC or peak AC between grid and cathode, especially under mechanical excitation. Typical Class A1 at V_a 135 V, V_g -1 V: I_a 12.5 mA, g_m 15000 μmhos (0.015 A/V), μ 75, r_p approximately 5000 Ω. Grid voltage for g_m 150 μmhos approx -5 V, for g_m 1500 μmhos approx -2.6 V. Shielded direct capacitances C_{gp} 0.29 pF, input 4.4 pF, output 2.6 pF, heater-cathode 2.5 pF. At 200 MHz, input resistance 600 Ω and input capacitance 9.0 pF measured grounded-plate; noise figure 4.2 dB in optimized neutralized noise-matched triode RF amplifier. These 200 MHz figures are operating/measurement-dependent and not interchangeable with direct capacitances.</i></p>	



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1970 Sylvania Technical Manual

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

1970 SYLVANIA TECHNICAL MANUAL

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage	135 V	—
Grid Voltage	-1 V	—
Plate Current	12.5 mA	—
Grid To Plate Capacitance	0.29 pF	—
Input Capacitance	4.4 pF	—
Output Capacitance	2.6 pF	—

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