

ELECTRONIC TUBE REFERENCE

12HG7

Voltage Pentode - Sharp Cutoff (single) electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION
CONSTRUCTION
PENTODE

Frame-grid sharp-cutoff pentode designed for television video-amplifier service. Its specialized grid construction provides high transconductance and bandwidth for color and monochrome television signal amplification.

GENERAL CHARACTERISTICS

BASE DESIGNATION	9BF	BASE PINS	9
NOMINAL HEATER	12.6 V / 260 mA	PARALLEL HEATER	6.3 V / 520 mA
HEATING	Indirect	SERIES OPERATION	Capable
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

9BF - TERMINAL PINOUT

TERMINAL	SECTION	ELEMENT	STATUS
PIN1 – K	A	K – Cathode	CONNECTED
PIN2 – G1	A	G1 – Control Grid	CONNECTED
PIN3 – G3	A	G3 – Suppressor Grid	CONNECTED
PIN4 – H	–	H – Heater	CONNECTED
PIN5 – H	–	H – Heater	CONNECTED
PIN6 – HCT	–	HCT – Heater Center Tap	CONNECTED
PIN7 – P	A	P – Plate (Anode)	CONNECTED
PIN8 – G2	A	G2 – Screen Grid	CONNECTED
PIN9 – G3	A	G3 – Suppressor Grid	CONNECTED

SECTION RATINGS

SECTION1 Pentode	
PLATE RESISTANCE	60000 Ω
TRANSCONDUCTANCE	0.032 S
MAXIMUM PLATE VOLTAGE	400 V
MAXIMUM SCREEN VOLTAGE	330 V
MAXIMUM PLATE DISSIPATION	10 W
MAXIMUM SCREEN DISSIPATION	1 W
MAXIMUM CATHODE CURRENT	40 mA
<i>Promoted gm/rp from published Class-A characteristics; maximum screen input is condition-dependent above 165 V.</i>	

Frame-grid sharp-cutoff pentode for video-amplifier service in color and black-and-white television receivers.



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1964 RMA EIA

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

1964 RMA EIA

Section 1 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate supply voltage	300 V	ClassA
Grid No. 2 supply voltage	135 V	ClassA
Cathode resistor	47 Ohm	ClassA
Plate current	31 mA	ClassA
Grid No. 2 current	4.8 mA	ClassA
Maximum screen input	1 W	GridNo2VoltageUpTo165V
Fixed-bias grid circuit resistance maximum	0.1 Mohm	—
Cathode-bias grid circuit resistance maximum	0.25 Mohm	—

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid No. 1 to plate capacitance	0.12 pF	—
Input capacitance	14 pF	—
Output capacitance	4.4 pF	—



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 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	12.6 V	—
Heater current	260 mA	—
Heater voltage series	12.6 V	—
Heater current series	260 mA	—
Heater voltage parallel	6.3 V	—
Heater current parallel	520 mA	—
Peak heater-cathode voltage heater negative	200 V	—
Peak heater-cathode voltage heater positive	200 V	—
Plate supply voltage	300 V	ClassA
Screen supply voltage	135 V	ClassA
Cathode resistor	47 ohm	ClassA
Plate current	31 mA	ClassA
Screen current	4.8 mA	ClassA
Maximum plate voltage	400 V	—
Maximum screen supply voltage	330 V	—
Screen input up to 165 V	1 W	—
Plate dissipation	10 W	—

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate resistance	60000 ohm	ClassA
Transconductance	32000 uS	ClassA

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-to-plate capacitance	0.15 pF	—
Input capacitance	20 pF	—
Output capacitance	7 pF	—