

ELECTRONIC TUBE REFERENCE

5GH8A

Voltage - Triode Pentode electronic tube

CONSOLIDATED TECHNICAL DATA

2 SECTIONS

CONSTRUCTION

PENTODE-TRIODE

Combined medium-mu triode and sharp-cutoff pentode for television horizontal oscillator, multivibrator, frequency-control, and related amplifier circuits.

GENERAL CHARACTERISTICS

BASE DESIGNATION	9AE	BASE PINS	9
NOMINAL HEATER	4.7 V / 600 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Dissimilar

9AE - TERMINAL PINOUT

TERMINAL	SECTION	ELEMENT	STATUS
PIN1 – 2P	B	P – Plate (Anode)	CONNECTED
PIN2 – 1G1	A	G1 – Control Grid	CONNECTED
PIN3 – 1G2	A	G2 – Screen Grid	CONNECTED
PIN4 – H	–	H – Heater	CONNECTED
PIN5 – H	–	H – Heater	CONNECTED
PIN6 – 1P	A	P – Plate (Anode)	CONNECTED
PIN7 – 1G3	A	G3 – Suppressor Grid	CONNECTED
PIN7 – 1S	A	IS – Internal Screen	CONNECTED
PIN7 – 1K	A	K – Cathode	CONNECTED
PIN8 – 2K	B	K – Cathode	CONNECTED
PIN9 – 2G1	B	G1 – Control Grid	CONNECTED

SECTION RATINGS

SECTION1 Triode	
PLATE RESISTANCE	5400 Ω
TRANSCONDUCTANCE	0.0085 S
AMPLIFICATION FACTOR	46
MAXIMUM PLATE VOLTAGE	330 V
MAXIMUM PLATE DISSIPATION	2.5 W
<i>Electrical characteristics cloned from explicit counterpart 6GH8A; heater replaced by 5GH8A source values. Medium-mu triode unit.</i>	

SECTION2 Pentode	
PLATE RESISTANCE	200000 Ω
TRANSCONDUCTANCE	0.0075 S
MAXIMUM PLATE VOLTAGE	350 V
MAXIMUM SCREEN VOLTAGE	330 V
MAXIMUM PLATE DISSIPATION	2.5 W
MAXIMUM SCREEN DISSIPATION	0.55 W
MAXIMUM CATHODE CURRENT	20 mA
<i>Electrical characteristics cloned from explicit counterpart 6GH8A; heater replaced by 5GH8A source values. Sharp-cutoff pentode horizontal-oscillator unit.</i>	

Medium-mu triode and sharp-cutoff pentode for television horizontal-oscillator, multivibrator, and amplifier applications. Explicit heater variant/co-designation of 9GH8A in the approved source.

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 capacitance	1.7 pF	WithoutShield
Input capacitance	3 pF	WithoutShield
Output capacitance	1.4 pF	WithoutShield

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	125 V	ClassA
Grid #1 voltage	-1 V	ClassA
Plate current	13.5 mA	ClassA
Heater/filament voltage	4.7 V	DerivativeSheet
Heater/filament current	600 mA	DerivativeSheet
Heater warm-up time	11 s	ControlledWarmup

1971 RCA HB3 BINDER 4 OF 7

Section 2 · Pentode

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid #1-to-plate capacitance	0.02 pF	WithoutShield
Input capacitance	5 pF	WithoutShield
Output capacitance	2.6 pF	WithoutShield

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	125 V	ClassA
Screen voltage	125 V	ClassA

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid #1 voltage	-1 V	ClassA
Plate current	12 mA	ClassA
Screen current	4 mA	ClassA
Peak negative grid #1 voltage	175 V	HorizontalDeflectionOscillator
Peak cathode current	330 mA	HorizontalDeflectionOscillator



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 Warm-up Time (Average)	11 s	Other;PublishedValue1
Heater Warm-up Time (Average)	11 s	Other;PublishedValue2
Peak value	200 V	Other;PublishedValue1
Peak value	200 V	Other;PublishedValue2
Peak value	200 V	Other;PublishedValue3
Average value	100 V	Other;PublishedValue1
Average value	100 V	Other;PublishedValue2
Average value	100 V	Other;PublishedValue3
Plate Voltage	330 V	MaximumRating;PublishedValue1
Plate Voltage	350 V	MaximumRating;PublishedValue2
Grid-No	2 V	MaximumRating;PublishedValue1
Grid-No	330 V	MaximumRating;PublishedValue2
Peak Cathode Current –	300 mA	MaximumRating
Average Cathode Current –	20 mA	MaximumRating

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Dissipation	2.5 W	MaximumRating;PublishedValue1
Plate Dissipation	2.5 W	MaximumRating;PublishedValue2
Grid-No	2 W	MaximumRating;PublishedValue1
Grid-No	0.55 W	MaximumRating;PublishedValue2
Maximum Plate Voltage	330 V	Section1
Maximum Plate Dissipation	2.5 W	Section1

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid to Plate	1.7 pF	Capacitance
Pentode Cathode, and Internal Shield	3 pF	Capacitance;PublishedValue1
Pentode Cathode, and Internal Shield	3.2 pF	Capacitance;PublishedValue2
Pentode Cathode, and Internal Shield	1.4 pF	Capacitance;PublishedValue1
Pentode Cathode, and Internal Shield	1.9 pF	Capacitance;PublishedValue2
Heater to Cathode	3 pF	Capacitance
Grid No.1 to Plate	0.02 pF	Capacitance;PublishedValue1
Grid No.1 to Plate	0.01 pF	Capacitance;PublishedValue2
Grid No	3 pF	Capacitance;PublishedValue1
Grid No	5 pF	Capacitance;PublishedValue2
and Internal Shield	2.6 pF	Capacitance
Heater to Cathode, Grid No	3 pF	Capacitance;PublishedValue1
Heater to Cathode, Grid No	3 pF	Capacitance;PublishedValue2

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage	125 V	Characteristic;PublishedValue1
Plate Voltage	125 V	Characteristic;PublishedValue2
Grid-No	2 V	Characteristic;PublishedValue1
Grid-No	125 V	Characteristic;PublishedValue2
Grid-No	1 V	Characteristic;PublishedValue1
Grid-No	-1 V	Characteristic;PublishedValue2

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-No	-1 V	Characteristic;PublishedValue3
Plate Resistance (Approx.)	5400 ohm	Characteristic;PublishedValue1
Plate Resistance (Approx.)	200000 ohm	Characteristic;PublishedValue2
Plate Current	13.5 mA	Characteristic;PublishedValue1
Plate Current	12 mA	Characteristic;PublishedValue2
Grid-No	2 mA	Characteristic;PublishedValue1
Grid-No	4 mA	Characteristic;PublishedValue2
Grid-No.1 Voltage (Approx.) for plate current of	10 uA	Characteristic;PublishedValue1
Grid-No.1 Voltage (Approx.) for plate current of	-8 uA	Characteristic;PublishedValue2
Grid-No.1 Voltage (Approx.) for plate current of	-8 uA	Characteristic;PublishedValue3
Plate Resistance	5400 ohm	Section1
Transconductance	8500 uS	Section1
Amplification Factor	46	Section1

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Section 2 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum Plate Voltage	350 V	Section2
Maximum Plate Dissipation	2.5 W	Section2

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Resistance	200000 ohm	Section2
Transconductance	7500 uS	Section2

TUBE TINKER

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and their source documents.

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