

ELECTRONIC TUBE REFERENCE

6AH6

Voltage Pentode - Sharp Cutoff (single) electronic tube

CONSOLIDATED TECHNICAL DATA
1 SECTION
CONSTRUCTION
PENTODE

Very-high-transconductance sharp-cutoff miniature pentode designed for voltage-amplifier service. Its high slope provides substantial fixed gain for demanding high-frequency and broadband signal stages.

GENERAL CHARACTERISTICS

BASE DESIGNATION	E7-1	BASE PINS	7
NOMINAL HEATER	6.3 V / 450 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION1 Pentode	
PLATE RESISTANCE	500000 Ω
TRANSCONDUCTANCE	0.008 S
MAXIMUM PLATE VOLTAGE	300 V
MAXIMUM SCREEN VOLTAGE	150 V
MAXIMUM PLATE DISSIPATION	3.2 W
MAXIMUM SCREEN DISSIPATION	0.4 W
MAXIMUM CATHODE CURRENT	13 mA
<i>6AH6 indirectly heated high-transconductance sharp-cutoff seven-pin miniature pentode for wideband video, RF and IF amplification or reactance-tube service. Heater 6.3 V 0.45 A. GE, Tung-Sol and Sylvania report design-center maximum plate 300 V, plate dissipation 3.2 W, screen dissipation 0.4 W and cathode current 13 mA. Existing 150 V max_screen_voltage retained; manufacturers also specify a conditional grid-2 screen-supply maximum of 300 V with actual screen voltage subject to a rating chart, not an unrestricted electrode limit. Pentode-connected at plate 300 V, screen 150 V, cathode resistor 160 Ω, plate current 10 mA, screen current 2.5 mA: GE gives gm ~8000 μmhos (0.008 S), Sylvania and other editions ~9000 μmhos (0.009 S), approximate plate resistance 500 kΩ; existing 0.008 S retained due to source variation. Triode connection (grids 2 and 3 tied to plate) at plate 150 V: typical gm 11000 μmhos, amplification factor ~40, plate resistance ~3600 Ω; this is an alternative connection, NOT an additional physical section. Grid-3-to-plate gm only ~2 μmhos and not an ordinary independent signal control. Shielded interelectrode capacitances grid-to-plate max 0.020 pF, input 10 pF, output 3.6 pF.</i>	

Very-high-transconductance sharp-cutoff miniature pentode for voltage-amplifier service.



SOURCE OPERATING CONDITIONS

1938 Raytheon

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

1938 RAYTHEON

Section 1 · Pentode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater or filament voltage	6.3 V	Published nominal or representative value
Heater or filament current	450 mA	Published nominal or representative value
Transconductance	9000 μ S	Published operating characteristic

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum plate dissipation	3.2 W	Published maximum rating



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

195X General Electric Essential Characteristics

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

195X GENERAL ELECTRIC ESSENTIAL CHARACTERISTICS

Section 1 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	300 V	ClassA;PentodeConnection
Screen-grid voltage	150 V	ClassA;PentodeConnection
Cathode resistor	160 ohm	ClassA;PentodeConnection
Plate current	10 mA	ClassA;PentodeConnection

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Screen-grid current	2.5 mA	ClassA;PentodeConnection
Plate voltage	150 V	ClassA;TriodeConnection
Cathode resistor	160 ohm	ClassA;TriodeConnection
Plate current	12.5 mA	ClassA;TriodeConnection
Plate resistance	3600 ohm	ClassA;TriodeConnection
Transconductance	11000 uS	ClassA;TriodeConnection
Amplification factor	40	ClassA;TriodeConnection



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1966 Tung Sol Electronic Tubes 1 of 4

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

1966 TUNG SOL ELECTRONIC TUBES 1 OF 4

Section 1 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	300 V	PentodeConnection
Plate current	10 mA	PentodeConnection
Screen current	2.5 mA	PentodeConnection
Plate voltage	150 V	TriodeConnection
Plate current	12.5 mA	TriodeConnection
Application	Very-high-transconductance sharp-cutoff voltage amplifier	Section1

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconductance	9000 μS	PentodeConnection
Plate resistance	3600 Ω	TriodeConnection
Transconductance	11000 μS	TriodeConnection
Amplification factor	40	TriodeConnection



SOURCE OPERATING CONDITIONS

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1968 General Electric Co

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

1968 GENERAL ELECTRIC CO

Section 1 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
HeaterOrFilamentVoltageNominal	6.3 V	—
HeaterOrFilamentCurrentNominal	450 mA	—
Maximum Plate Voltage	300 V	—
Maximum Screen Voltage	150 V	—
Maximum Plate Dissipation	3.2 W	—
Maximum Screen Dissipation	0.4 W	—
Maximum Cathode Current	13 mA	—

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Resistance	500000 Ohm	—
Transconductance	8000 uS	—



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1969 Tesla Manual of Electronic Tubes

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

1969 TESLA MANUAL OF ELECTRONIC TUBES

APPLICATION		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Application	RF_IF_Amplifier text	—