



ELECTRONIC TUBE REFERENCE

6AS6

Voltage - Pentode Sharp Cutoff (single) electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

PENTODE

Dual-control sharp-cutoff pentode for converter, modulator, gating, and amplifier applications. Its broad industrial and communications use is not specifically centered on radio detection or superheterodyne frequency conversion.

GENERAL CHARACTERISTICS

BASE DESIGNATION	E7-1	BASE PINS	7
NOMINAL HEATER	6.3 V / 175 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION 1 Pentode	
PLATE RESISTANCE	110000 Ω
TRANSCONDUCTANCE	0.0032 S
MAXIMUM PLATE VOLTAGE	180 V
MAXIMUM SCREEN VOLTAGE	140 V
MAXIMUM PLATE DISSIPATION	1.7 W
MAXIMUM SCREEN DISSIPATION	0.75 W
MAXIMUM CATHODE CURRENT	8 mA
MAXIMUM HEATER-CATHODE VOLTAGE	90 V
<i>Promoted from published ratings/characteristics; identical repeated sections compressed where applicable.</i>	

6AS6 is described in the supplied Tung-Sol datasheet as a dual-control sharp-cutoff pentode. Published maximum ratings and core section characteristics were extracted into the technical tables.



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1956 Western Electric Tubes

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

1956 WESTERN ELECTRIC TUBES

Section 1 · Pentode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
HeaterOrFilamentVoltage	6.3 V	—
HeaterOrFilamentCurrent	175 mA	—
Application	GatedMixerSpecialPurposeAmplifier	—



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1958 Brimar Radio Valve No 7

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

1958 BRIMAR RADIO VALVE NO 7

Section 1 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Source Anomaly	Supplied 6AS6.pdf contains a curve page labeled 6AT6	No 6AS6 electrical table present in supplied 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	120 V	ClassA Ec3=0V
Screen voltage	120 V	ClassA Ec3=0V
Control-grid voltage	-2 V	ClassA Ec3=0V
Plate current	5.2 mA	ClassA Ec3=0V
Screen current	3.5 mA	ClassA Ec3=0V



SOURCE DATA APPENDIX

195X Raytheon Special Purpose Tubes

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

195X RAYTHEON SPECIAL PURPOSE TUBES

Section 1 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Control-grid voltage	-2 V	MixerGatedAmplifier
Plate voltage	120 V	MixerGatedAmplifier
Screen voltage	120 V	MixerGatedAmplifier
Suppressor-grid voltage	0 V	MixerGatedAmplifier
Plate current	5.2 mA	MixerGatedAmplifier
Screen current	3.5 mA	MixerGatedAmplifier

Characteristic		
Parameter	Published Value	Condition / Note
Transconductance	3200 μ S	Section1



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

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1960 RCA Industrial and Communications Types

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

1960 RCA INDUSTRIAL AND COMMUNICATIONS TYPES

Section 1 · Pentode

Characteristics		
Parameter	Published Value	Condition / Note
Heater Voltage	6.3 V	—



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1961 Tung Sol

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

1961 TUNG SOL

Section 1 · Pentode

Other		
Parameter	Published Value	Condition / Note
Heater voltage	6.3 V	—
Heater current	175 mA	—

Characteristic		
Parameter	Published Value	Condition / Note
Grid 1 transconductance	3200 μ S	—
Grid 3 transconductance	470 μ S	—

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

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	6.3 V	Published table
Heater current	175 mA	Published table
Plate resistance	110000 ohm	Published table
Control-grid transconductance	3200 μ S	Published table
Suppressor-grid transconductance	470 μ S	Published table

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	120 V	PentodeConnection
Screen voltage	120 V	PentodeConnection
Control-grid voltage	-2 V	PentodeConnection
Suppressor-grid voltage	0 V	PentodeConnection
Screen current	3.5 mA	PentodeConnection

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1967 Mullard Receiving and Amplifying Valves

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

1967 MULLARD RECEIVING AND AMPLIFYING VALVES

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Typical Plate Voltage	120 V	Vg3=0V
Typical Screen Voltage	120 V	Vg3=0V
Plate Current	5.1 mA	Vg3=0V
Screen Current	3.5 mA	Vg3=0V
Control-Grid Voltage	-2 V	Vg3=0V
Suppressor-Grid Transconductance	450 uS	Vg3=0V
Plate Resistance	150000 ohm	—
Transconductance	3200 uS	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Frequency-Changer Oscillator Voltage	6 V	FrequencyChanger
Maximum Plate Voltage	300 V	—
Maximum Screen Voltage	140 V	—
Maximum Plate Dissipation	1.7 W	—
Maximum Screen Dissipation	0.75 W	—
Maximum Cathode Current	18 mA	—
Interelectrode Capacitance Data Published	1	SourceTablePresent



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

SOURCE PDF

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

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Suppressor Transconductance	470 μ S	ClassA;SuppressorVoltage=0V



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

SOURCE PDF

1971 RCA HB3 Binder 3 of 7

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

1971 RCA HB3 BINDER 3 OF 7

Section 1 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	6.3 V	—
Heater current	175 mA	—
Peak heater-cathode voltage	90 V	BothPolarities
Plate voltage	150 V	ClassA
Screen voltage	100 V	ClassA
Grid No.1 voltage	-1 V	ClassA
Grid No.3 voltage	0 V	ClassA
Plate current	8 mA	ClassA

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconductance grid No.1	4500 μ S	ClassA

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid No.1-to-plate capacitance	0.02 pF	WithShield
Grid No.1-to-grid No.3 capacitance	0.15 pF	—

SOURCE OPERATING CONDITIONS

2026 Western Electric 400s

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

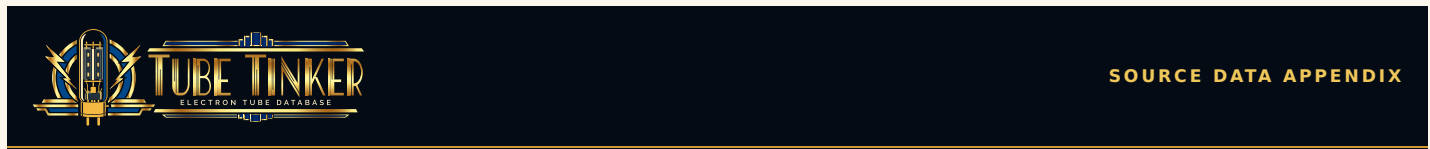
2026 WESTERN ELECTRIC 400S

Section 1 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate dissipation	1.7 watts	Plate dissipation 1.7 watts
Sereen dissipation	75 watt	Sereen dissipation 0,75 watt

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Cathode current	18 milliamperes	Cathode current 18 milliamperes
Heater-cathode voltage	90 volts	Heater-cathode voltage 90 volts
Plate voltage	120 volts	Plate voltage 120 120 volts
Sereen voltage	120 volts	Sereen voltage 120 120 volts
Suppresser voltage	-3 volts	Suppresser voltage -3 0 volts
Grid voltage	-2 volts	Grid voltage -2 = 2 volts
Sereen current	4.8 milliamperes	. Sereen current 4.8 3.5 milliamperes
Plate voltage	120 volts	Plate voltage 120 volts Plate voltage 120 120 volts
Screen voltage	120 volts	. Screen voltage 120 volts Sereen voltage 120 60 volts
Suppressor voltage	0 volts	Suppressor voltage 0 volts Grid voltage - 2 0 volts
SCREEN VOLTAGE=	120 VOLTS	SCREEN VOLTAGE=120 VOLTS fe—— 14
Ef=	63 VOLTS	Ef=63 VOLTS PLATE VOLTAGE=120 VOLTS ft =6.3 VOLTS Eci=n
H Eci=-i o SCREEN VOLTAGE	120 VOLTS	H Eci=-i o SCREEN VOLTAGE 120 VOLTS
" Ef=	63 VOLTS	" Ef=63 VOLTS Eciz - \ SCREEN VOLTAGE<120VOLTS
W	5000 VOLTS	W 5000 PLATE VOLTAGE =120 VOLTS

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
GRID VOLTAGE. $E_c = \sim / E$	63 VOLTS	GRID VOLTAGE. $E_c = \sim / E_4 = 63$ VOLTS
Published value	1400 VOLTS	1400 AN PLATE VOLTAGE = 120 VOLTS
/ \ SCREEN VOLTAGE = i	20 VOLTS	/ \ SCREEN VOLTAGE = i 20 VOLTS



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

2026 Western Electric Other

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

2026 WESTERN ELECTRIC OTHER

Section 1 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage	6.3 V	A-C or D-C
Heater Current Nominal	175 mA	Nominal
Plate Voltage Maximum	180 V	Design-center value
Screen Voltage Maximum	140 V	Design-center value
Positive Suppressor Voltage Maximum	27 V	Design-center value
Plate Dissipation Maximum	1.7 W	Design-center value
Screen Dissipation Maximum	0.75 W	Design-center value
Cathode Current Maximum	18 mA	Design-center value
Heater-Cathode Voltage Maximum	90 V	Design-center value
Bulb Temperature Maximum	120 degC	Design-center value
Plate Voltage	120 V	Suppressor -3 V
Screen Voltage	120 V	Suppressor -3 V
Suppressor Voltage	-3 V	Operating column 1
Control Grid Voltage	-2 V	Operating column 1
Plate Voltage	120 V	Suppressor 0 V
Screen Voltage	120 V	Suppressor 0 V
Suppressor Voltage	0 V	Operating column 2

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Control Grid Voltage	-2 V	Operating column 2

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Current	3.6 mA	Operating column 1
Screen Current	4.8 mA	Operating column 1
Control-Grid Transconductance	1850 μS	Operating column 1
Suppressor-Grid Transconductance	810 μS	Operating column 1

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