

ELECTRONIC TUBE REFERENCE

6BX6

Voltage - Pentode electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

PENTODE

General-purpose high-slope pentode for RF, IF, video-amplifier, and mixer service in television receivers.

GENERAL CHARACTERISTICS

BASE DESIGNATION	9AQ	BASE PINS	9
NOMINAL HEATER	6.3 V / 300 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

9AQ - TERMINAL PINOUT

TERMINAL	SECTION	ELEMENT	STATUS
PIN1 – K	A	K – Cathode	CONNECTED
PIN2 – G1	A	G1 – Control Grid	CONNECTED
PIN3 – K	A	K – Cathode	CONNECTED
PIN4 – H	–	H – Heater	CONNECTED
PIN5 – H	–	H – Heater	CONNECTED
PIN6 – IS	A	IS – Internal Screen	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	400000 Ω
TRANSCONDUCTANCE	0.0068 S
MAXIMUM PLATE VOLTAGE	300 V
MAXIMUM SCREEN VOLTAGE	300 V
MAXIMUM PLATE DISSIPATION	2.5 W
MAXIMUM SCREEN DISSIPATION	0.5 W
MAXIMUM CATHODE CURRENT	25 mA
<i>Published ratings and characteristics promoted where clearly stated; identical repeated sections compressed where applicable.</i>	

General-purpose pentode for RF, IF, video-amplifier, or mixer service in television receivers.



SOURCE OPERATING CONDITIONS

1953 RFT Rundfunk Technik

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

1953 RFT RUNDFUNK TECHNIK

Section 1 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
HeaterVoltageNominal	6.3 V	Nominal
HeaterCurrentNominal	300 mA	Nominal
Maximum Plate Voltage	300 V	—
Maximum Screen Voltage	300 V	—
Maximum Plate Dissipation	2.5 W	—
Maximum Screen Dissipation	0.5 W	—
Maximum Cathode Current	25 mA	—

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconductance	7400 μ S	Typical
Plate Resistance	1000000 ohm	Typical



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

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage	6.3 V	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Current	300 mA	—


SOURCE DATA APPENDIX

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
Maximum plate voltage	250 V	Published handbook rating
Maximum screen voltage	250 V	Published handbook rating
Plate voltage	170 V	ClassA
Screen voltage	170 V	ClassA
Control-grid bias	2 V	ClassA
Plate current	10 mA	ClassA
Screen current	2.5 mA	ClassA

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate resistance	400000 ohm	Published handbook characteristic
Transconductance	7200 μ S	Published handbook characteristic
Heater voltage	6.3 V	Published heater rating
Heater current	300 mA	Published heater rating


SOURCE DATA APPENDIX

1961 Ferranti Technical Handbook

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

1961 FERRANTI TECHNICAL HANDBOOK

Section 1 · Pentode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	170 V	Point1
Screen-grid voltage	170 V	Point1
Control-grid voltage	-2 V	Point1
Plate current	10 mA	Point1
Screen-grid current	2.5 mA	Point1
Transconductance	7400 μ S	Point1
Plate resistance	400000 Ohm	Point1
Screen-to-control-grid amplification factor	50 ratio	Point1
Equivalent noise resistance	1000 Ohm	Point1
Plate voltage	200 V	Point2
Screen-grid voltage	200 V	Point2
Control-grid voltage	-2.5 V	Point2
Transconductance	7100 μ S	Point2
Plate resistance	550000 Ohm	Point2

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Input capacitance	7 pF	—
Output capacitance	3 pF	—
Grid-to-plate capacitance maximum	0.007 pF	—



1963 Amperex Condensed

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

1963 AMPEREX CONDENSED

Section 1 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	250 V	RFIFVideoAmplifier
Screen voltage	250 V	RFIFVideoAmplifier
Control-grid voltage	-3.5 V	RFIFVideoAmplifier
Plate current	10 mA	RFIFVideoAmplifier
Screen current	2.8 mA	RFIFVideoAmplifier

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate resistance	65000 Ω	Section1
Transconductance	6500 μS	Section1
Amplification factor	50	Section1



SOURCE DATA APPENDIX

1999 Philips 0-D

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

1999 PHILIPS 0-D

Section 1 · Pentode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	6.3 V	—
Heater current	300 mA	—
Plate voltage	170 V	—
Screen voltage	170 V	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate current	10 mA	—
Screen current	2.5 mA	—
Transconductance	7200 μ S	—
Plate resistance	400000 ohm	—
Screen-grid amplification factor	50	—
Equivalent noise resistance	1000 ohm	—

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Input capacitance	7.2 pF	—
Output capacitance	3.4 pF	—
Plate-grid capacitance maximum	0.007 pF	—

TUBE TINKER

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