



ELECTRONIC TUBE REFERENCE

12BA6

Voltage - Pentode Remote Cutoff (single) electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

PENTODE

Variable-mu miniature pentode for RF and IF amplification in AC/DC receivers, providing a broad useful AGC range.

GENERAL CHARACTERISTICS

BASE DESIGNATION	7CC	BASE PINS	7
NOMINAL HEATER	12.6 V / 150 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION 1 Pentode	
PLATE RESISTANCE	1000000 Ω
TRANSCONDUCTANCE	0.0044 S
MAXIMUM PLATE VOLTAGE	300 V
MAXIMUM SCREEN VOLTAGE	150 V
MAXIMUM PLATE DISSIPATION	3 W
MAXIMUM SCREEN DISSIPATION	0.6 W
<i>Pentode section; ratings and characteristics retained in parameter rows where not safely promotable.</i>	

Variable-mu voltage pentode for RF or IF amplification with series heater.



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	12.6 V	—
Heater Current	150 mA	—



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1965 Westinghouse Data Book

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

1965 WESTINGHOUSE DATA BOOK

Section 1 · Pentode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage	12.6 V	—
Heater Current	150 mA	—
GridToPlateCapacitanceMaximum	0.0035 pF	—
Input Capacitance	5.5 pF	—
Output Capacitance	5 pF	—
Plate Voltage	250 V	—
Screen Voltage	100 V	—
Cathode Resistance	68 ohm	—
Plate Resistance	1000000 ohm	—
Transconductance	4400 uS	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Current	11 mA	—
Screen Current	4.2 mA	—
GridBiasFor40uSTransconductance	-20 V	RemoteCutoff



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1966 Tung Sol Electronic Tubes 2 of 4

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

1966 TUNG SOL ELECTRONIC TUBES 2 OF 4

Section 1 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
HEATER POSITIVE WITH RESPECT TO CATHODE	200 V	Published datasheet
MAXIMUM PLATE VOLTAGE	330 V	Published datasheet
MAXIMUM GRID #2 SUPPLY VOLTAGE	330 V	Published datasheet
MAXIMUM POSITIVE DC GRID #1 VOLTAGE	0 V	Published datasheet
MAXIMUM NEGATIVE	0 V	Published datasheet; operating column 1
MAXIMUM NEGATIVE	-55 V	Published datasheet; operating column 2
MAXIMUM PLATE DISSIPATION	3.4 W	Published datasheet
FOR 6V6A6ES UP TO	165 W	Published datasheet; operating column 1
FOR 6V6A6ES UP TO	0.7 W	Published datasheet; operating column 2
CATHODE BIAS RESISTOR	68 ohm	Published datasheet; operating column 1
CATHODE BIAS RESISTOR	0 ohm	Published datasheet; operating column 3
Et =	12.6 V	Published datasheet
Ec2	100 V	Published datasheet
Ec3	0 V	Published datasheet
Eb =	250 V	Published datasheet

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
PLATE VOLTAGE IOU	250 V	Published datasheet
GRID #3 VOLTAGE	0 V	Published datasheet; operating column 1
PLATE RESISTANCE (A PPROX.)	0.25 Mohm	Published datasheet; operating column 1
PLATE RESISTANCE (A PPROX.)	1 Mohm	Published datasheet; operating column 2
GRID #2 CURRENT u.!!} ly	2 mA	Published datasheet
GRID #1 VOLTAGE (A PPROX.) FOR Gm = qp ILMHOS	-20 V	Published datasheet; operating column 1
Plate resistance	1000000 ohm	Published datasheet; promoted section value



SOURCE OPERATING CONDITIONS

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
Screen Supply Voltage	300 V	—
Plate Voltage	100 V	ClassA; PlateVoltage=100V; ScreenVoltage=100V
Screen Voltage	100 V	ClassA; PlateVoltage=100V; ScreenVoltage=100V
Cathode Bias Resistance	68 ohm	ClassA; PlateVoltage=100V; ScreenVoltage=100V
Plate Voltage	250 V	ClassA; PlateVoltage=250V; ScreenVoltage=100V
Screen Voltage	100 V	ClassA; PlateVoltage=250V; ScreenVoltage=100V
Cathode Bias Resistance	68 ohm	ClassA; PlateVoltage=250V; ScreenVoltage=100V

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Resistance	250000 ohm	ClassA; PlateVoltage=100V; ScreenVoltage=100V
Transconductance	4300 uS	ClassA; PlateVoltage=100V; ScreenVoltage=100V
Plate Current	10.8 mA	ClassA; PlateVoltage=100V; ScreenVoltage=100V
Screen Current	4.4 mA	ClassA; PlateVoltage=100V; ScreenVoltage=100V
Plate Resistance	1000000 ohm	ClassA; PlateVoltage=250V; ScreenVoltage=100V
Transconductance	4400 uS	ClassA; PlateVoltage=250V; ScreenVoltage=100V
Plate Current	11 mA	ClassA; PlateVoltage=250V; ScreenVoltage=100V
Screen Current	4.2 mA	ClassA; PlateVoltage=250V; ScreenVoltage=100V

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid1ToPlateCapacitanceMaximum	0.0035 pF	WithExternalShield
Input Capacitance	5.5 pF	WithExternalShield
Output Capacitance	5.5 pF	WithExternalShield


SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1968 Mazda Belvu

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

1968 MAZDA BELVU Section 1 · Pentode

APPLICATION		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Application	RF_IF_Amplifier text	—



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
Yo}tage (AC or DC) $\pm$ %	3 V	PublishedColumn1
Yo}tage (AC or DC) $\pm$ %	10 V	PublishedColumn2
Current at	6.3 V	—
PLATE VOLTAGE max	330 V	—
VOLTAGE max	330 V	—
Negative-bias value max	55 V	—

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid No.1 to plate. max. max	0.0035 pF	PublishedColumn1
and heater	5.5 pF	PublishedColumn1
grid No. , and heater	5 pF	PublishedColumn1
grid No. , and heater	5.5 pF	PublishedColumn2

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Supply Voltage	100 V	PublishedColumn1
Plate Supply Voltage	250 V	PublishedColumn2
Grid-No. Supply Voltage	100 V	PublishedColumn1
Cathode Resistor	68 ohm	PublishedColumn1
Plate Resistance (Approx.)	0.25 Mohm	PublishedColumn1
Plate Resistance (Approx.)	1 Mohm	PublishedColumn2
Transconductance	4300 μ S	PublishedColumn1
Transconductance	4400 μ S	PublishedColumn2

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Current	10.8 mA	PublishedColumn1
Plate Current	11 mA	PublishedColumn2
Grid-No. Current	4.4 mA	PublishedColumn1
Grid-No. Current	4.2 mA	PublishedColumn2



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 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
For fixed-bias operation	0.25 MΩ	Published in approved EF93 target datasheet entry; Section1
For cathode-bias operation	1 MΩ	Published in approved EF93 target datasheet entry; Section1
Plate Current	5 mA	Published in approved EF93 target datasheet entry; Section1
Plate Voltage	330 V	Published in approved EF93 target datasheet entry; Section1
Grid-No.3 (Suppressor-Grid) Voltage, Positive value	0 V	Published in approved EF93 target datasheet entry; Section1
Grid-No.2 Supply Voltage	330 V	Published in approved EF93 target datasheet entry; Section1
Plate Dissipation	3.4 W	Published in approved EF93 target datasheet entry; Section1
For grid-No.2 voltages up to	165 V	Published in approved EF93 target datasheet entry; Section1
For grid-No.2 voltages up to 165 volts	0.7 W	Published in approved EF93 target datasheet entry; Section1
For grid-No.2 voltages between 165 and	330 V	Published in approved EF93 target datasheet entry; Section1
Negative-bias value	55 V	Published in approved EF93 target datasheet entry; Section1

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Positive-bias value	0 V	Published in approved EF93 target datasheet entry; Section1
Plate Supply Voltage 100	250 V	Published in approved EF93 target datasheet entry; Section1

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Tube Voltage Drop for plate current of	20 mA	Published in approved EF93 target datasheet entry; Section1
Tube Voltage Drop for plate current of 20 mA	5 V	Published in approved EF93 target datasheet entry; Section1
Grid-No.2 Supply Voltage 100	100 V	Published in approved EF93 target datasheet entry; Section1
Cathode-Bias Resistor 68	68 Ω	Published in approved EF93 target datasheet entry; Section1
Plate Resistance (Approx.) 0.25	1 MΩ	Published in approved EF93 target datasheet entry; Section1
Transconductance 4300	4400 μS	Published in approved EF93 target datasheet entry; Section1

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage (ac/dc) 6.3	12.6 V	Published in approved EF93 target datasheet entry; Section1
Heater Current 0.3	150 mA	Published in approved EF93 target datasheet entry; Section1
" This value is	5.5 pF	Published in approved EF93 target datasheet entry; Section1

TUBE TINKER

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