

ELECTRONIC TUBE REFERENCE

6CB6

Voltage - Pentode electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION
CONSTRUCTION
PENTODE

High-transconductance sharp-cutoff pentode developed for television RF and IF amplification in VHF tuner and intermediate-frequency stages.

GENERAL CHARACTERISTICS

BASE DESIGNATION	7CM	BASE PINS	7
NOMINAL HEATER	6.3 V / 300 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

7CM - TERMINAL PINOUT

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

SECTION RATINGS

SECTION1 Pentode	
PLATE RESISTANCE	280000 Ω
TRANSCONDUCTANCE	0.008 S
MAXIMUM PLATE VOLTAGE	330 V
MAXIMUM SCREEN VOLTAGE	150 V
MAXIMUM PLATE DISSIPATION	2.3 W
MAXIMUM SCREEN DISSIPATION	0.6 W
<i>Sharp-cutoff pentode.</i>	

Indirectly heated fixed-slope pentode intended for RF amplification.



SOURCE OPERATING CONDITIONS

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1958 Mullard Receiving Tubes

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

1958 MULLARD RECEIVING TUBES

Section 1 · Pentode

APPLICATION

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Application	RF / IF amplifier	—



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195X General Electric Essential Characteristics

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195X GENERAL ELECTRIC ESSENTIAL CHARACTERISTICS

Section 1 · Pentode

OTHER

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	200 V	ClassA
Screen-grid voltage	150 V	ClassA
Cathode resistor	180 ohm	ClassA
Plate current	9.5 mA	ClassA
Screen-grid current	2.8 mA	ClassA

CAPACITANCE

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Input capacitance	6.5 pF	—
Output capacitance	2 pF	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-to-plate capacitance	0.02 pF	—



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

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1961 Tung Sol

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1961 TUNG SOL

Section 1 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	6.3 V	—
Heater current	300 mA	—
Plate voltage	330 V	Typical operating conditions
Plate current	13 mA	Typical operating conditions



SOURCE DATA APPENDIX

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1963 Mullard

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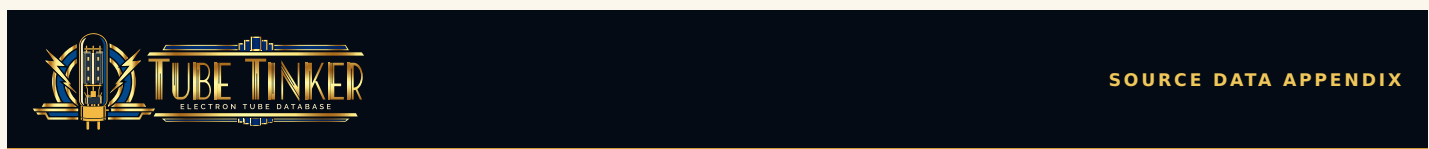
1963 MULLARD

Section 1 · Pentode

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Input capacitance	6.5 pF	Shielded
Output capacitance	3 pF	Shielded
Grid-to-plate capacitance maximum	0.01 pF	Shielded

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	200 V	—
Screen-grid voltage	150 V	—
Control-grid voltage	-2.2 V	—
Plate current	9.5 mA	—
Screen-grid current	2.8 mA	—
Plate resistance	600000 Ohm	—
Transconductance	8000 uS	—
Control-grid cutoff voltage	-8 V	Ia=10uA

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate cold voltage	550 V	—
Screen-grid cold voltage	550 V	—
Heater-to-cathode voltage peak	200 V	—



SOURCE OPERATING CONDITIONS

1965 Sylvania Electronic Tubes Vol3

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1965 SYLVANIA ELECTRONIC TUBES VOL3

Section 1 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	125 V	—
Screen-grid voltage	125 V	—
Cathode bias resistor	56 Ohm	—
Plate current	13 mA	—

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate resistance	280000 Ohm	—
Transconductance	8000 uS	—
Control-grid cutoff voltage	-6.5 V	—

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-to-plate capacitance	0.025 pF	Unshielded
Input capacitance	6.5 pF	Unshielded
Output capacitance	2 pF	Unshielded


SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

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1965 Westinghouse Data Book

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1965 WESTINGHOUSE DATA BOOK

Section 1 · Pentode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage	6.3 V	—
Heater Current	300 mA	—
Transconductance	10000 uS	RepresentativePublishedPoint
Plate Resistance	280000 ohm	RepresentativePublishedPoint

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum Plate Voltage	330 V	—
Maximum Plate Dissipation	2.3 W	—


SOURCE DATA APPENDIX

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

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-to-plate capacitance without shield	0.025 pF	—
Grid-to-plate capacitance with shield	0.015 pF	—
Input capacitance	6.5 pF	—
Output capacitance without shield	2 pF	—
Output capacitance with shield	3 pF	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	125 V	ClassA
Grid #2 voltage	125 V	ClassA
Cathode bias resistor	56 ohm	ClassA
Plate current	13 mA	ClassA
Grid #2 current	3.7 mA	ClassA

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid #1 voltage at 20 uA plate current	-6.5 V	—



1968 Mazda Belvu

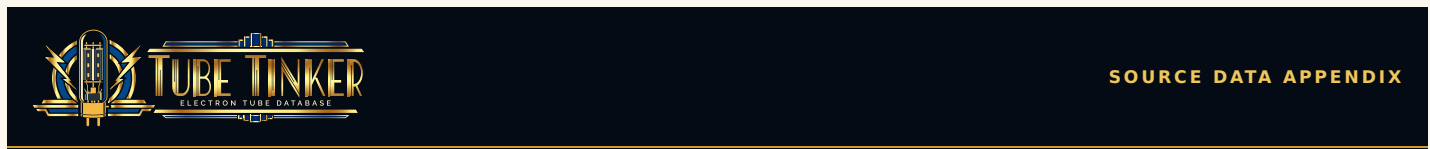
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1968 MAZDA BELVU
Section 1 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage cesenserse caonde conmessnee vf	6.33 V	—
Heater current If	300 MA	—
Tension d'anod@E ...c Va	300 V	—
Screen-grid voltage ececririnerecenesennnnnnnnns V8a	150 V	—
Plate dissipation ; ... Pa	2 W	—
Screen-grid dissipation Peg,	0.5 W	—
TTension de crête entre fllament et cathode mueeer VEKCT	200 V	—
Tension d'An0dE ereresrieeneenansesinnncnes Vă	200 V	—
Screen-grid voltage ...c VEZ	150 V	—
RÉSISTANCE INtEInE riresenaieriennsennnnnnnnnnnnne P	6 MΩ	—
Transconductance	6.2 mA/V	—
ce VEL bl	-8 V	—
cccc T	9.5 mA	—
Courant de grille n° 2 eerensesecerereenceceness î2	2.8 mA	—
ï Va =	0 V	—

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Capacitance d'entrée	6.3 pF	InterelectrodeCapacitance
Capacitance de sortie	1.9 pF	InterelectrodeCapacitance

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Capacitance anode/ grille n° 1 c Ca/ @	20 pF	InterelectrodeCapacitance
Capacitance d'entrée erermescerenenamatenne Ce	6.5 pF	InterelectrodeCapacitance
Capacitance de sortie n Cs	3 pF	InterelectrodeCapacitance
Capacitance anode/ grille n° 1 c Ca/ ë;	10 pF	InterelectrodeCapacitance



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1971 RCA HB3 Binder 4 of 7

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1971 RCA HB3 BINDER 4 OF 7

Section 1 · Pentode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater negative with respect to cathode	200 V	—
Heater positive with respect to cathode	2004 V	—
E ~. =	6.3 V	—
GRtD-N	42 V	Published table column 1 of 2
GRtD-N	150 V	Published table column 2 of 2
Ep=	8.3 V	—
PLATE VOLTS=	200 V	—
GRID-Ns	2 V	Published table column 1 of 2
GRID-Ns	50 V	Published table column 2 of 2

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage	200 V	—
Cathode-Bias Resistor	180 Ω	—
Plate Resistance (Approx)	0.6 MΩ	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconductance	6200 μ S	—
plate current of	10 V	—
Plate Current	9.5 mA	—
Grid–No	2 mA	Published table column 1 of 2
Grid–No	2.8 mA	Published table column 2 of 2

TUBE TINKER

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