



ELECTRONIC TUBE REFERENCE

6136

Voltage - Pentode Sharp Cutoff (single) electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

PENTODE

Ruggedized sharp-cutoff RF/IF pentode designed for dependable high-frequency signal amplification. Manufacturer documentation emphasizes strengthened construction for professional or demanding-service receiver stages.

GENERAL CHARACTERISTICS

BASE DESIGNATION	E7-1	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

SECTION RATINGS

SECTION 1 Pentode	
PLATE RESISTANCE	1000000 Ω
TRANSCONDUCTANCE	0.0052 S
MAXIMUM PLATE VOLTAGE	300 V
MAXIMUM SCREEN VOLTAGE	150 V
MAXIMUM PLATE DISSIPATION	3 W
MAXIMUM SCREEN DISSIPATION	0.65 W
MAXIMUM CATHODE CURRENT	20 mA
<i>Published ratings and characteristics promoted where applicable; additional source-table values retained in TUBE_SECTION_PARAMETER.</i>	

Ruggedized sharp-cutoff RF/IF pentode.



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1940 RCA

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

1940 RCA

Section 1 · Pentode

CHARACTERISTICS

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater or filament voltage	6.3 V	Published nominal value
Heater or filament current	300 mA	Published nominal value

OTHER

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum plate dissipation	3.3 W	Published maximum rating
Application	Wide-band IF/RF amplifier	VHF communications receivers



SOURCE OPERATING CONDITIONS

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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

CAPACITANCE

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Input capacitance	6 pF	—
Output capacitance	5 pF	—
Grid-to-plate capacitance	0.0035 pF	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	250 V	ClassA
Screen-grid voltage	150 V	ClassA
Cathode-bias resistor	68 ohm	ClassA
Plate current	10.6 mA	ClassA
Screen-grid current	4.3 mA	ClassA
Plate voltage	100 V	ClassA
Screen-grid voltage	100 V	ClassA
Cathode-bias resistor	150 ohm	ClassA
Plate current	5 mA	ClassA
Screen-grid current	2.1 mA	ClassA

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate resistance	1000000 ohm	At250V
Transconductance	5200 uS	At250V
Plate resistance	500000 ohm	At100V
Transconductance	3900 uS	At100V



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	—
Heater Current	300 mA	—



SOURCE OPERATING CONDITIONS

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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
Plate Voltage	250 V	ClassA
Service	High-gain RF or IF amplifier	—



SOURCE OPERATING CONDITIONS

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1966 Tung Sol Electronic Tubes 4 of 4

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

1966 TUNG SOL ELECTRONIC TUBES 4 OF 4

Section 1 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater/filament voltage	6.3 V	—
Heater/filament current	300 mA	—

APPLICATION		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Application summary	Ruggedized sharp-cutoff RF/IF pentode.	—

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	120 V	—
Screen voltage	120 V	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate current	7.5 mA	—
Transconductance	5000 μ S	—
Grid-to-plate capacitance	0.02 pF	—
Input capacitance	4.2 pF	—



SOURCE DATA APPENDIX

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

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconductance	3900 μ S	ClassA; PlateVoltage=100V; ScreenVoltage=100V
Transconductance	5200 μ S	ClassA; PlateVoltage=250V; ScreenVoltage=150V
With external shield No	316 C	Class A; Amplifier
PLATE VOLTAGE o	250 V	Class A; Amplifier
E	6.3 V	Class A; Amplifier
SUPPRESSOR VOLTAGE	0 V	Class A; Amplifier
PLATE VOLTAGE	250 V	Class A; Amplifier
PIN	7 C	Class A; Amplifier

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Current	5 mA	ClassA; PlateVoltage=100V; ScreenVoltage=100V
Screen Current	2.1 mA	ClassA; PlateVoltage=100V; ScreenVoltage=100V
Plate Current	10.6 mA	ClassA; PlateVoltage=250V; ScreenVoltage=150V

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Screen Current	4.3 mA	ClassA; PlateVoltage=250V; ScreenVoltage=150V
Plate Dissipation oot	3 W	—



SOURCE OPERATING CONDITIONS

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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

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Voltage – published value 1	6.3 V	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Voltage – published value 2	10 V	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Current	300 mA	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
and heater	6	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
and heater	5	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Plate-Supply Voltage – published value 1	100 V	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Plate-Supply Voltage – published value 2	250 V	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Grid-No.2 (Screen-Grid) Supply Voltage – published value 1	100 V	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-No.2 (Screen-Grid) Supply Voltage – published value 2	150 V	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Plate Resistance (Approx.) – published value 1	0.5 Mohm	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Plate Resistance (Approx.) – published value 2	1 Mohm	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Transconductance – published value 1	3900	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Transconductance – published value 2	5200	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
P1 ate Current – published value 1	5 mA	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
P1 ate Current – published value 2	10.6 mA	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Grid-No.2 Current – published value 1	2.1 mA	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Grid-No.2 Current – published value 2	4.3 mA	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
(Approx.) for plate current of 10 μ a – published value 1	10 V	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
(Approx.) for plate current of 10 μ a – published value 2	-4.2 V	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
(Approx.) for plate current of 10 μ a – published value 3	-6.5 V	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Pin 1 -Grid No.1 – published value 1	1	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Pin 1 -Grid No.1 – published value 2	4	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Pin 2 -Grid No.3, – published value 1	2	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Pin 2 -Grid No.3, – published value 2	5	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Internal	6	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Pin 3 -Heater	3	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
GRID-No.2 INPUT – published value 1	0 mA	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
GRID-No.2 INPUT – published value 2	7 mA	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
For fixed-bias operation	0.25 mA	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Heater Current – published value 1	1 A	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Heater Current – published value 2	275 mA	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Heater Current – published value 3	325 mA	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Grid No.1 to plate – published value 1	2	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Grid No.1 to plate – published value 2	0.0035	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
and heater – published value 1	2	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
and heater – published value 2	4.6	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
and heater – published value 3	7.2	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
and heater – published value 1	2	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
and heater – published value 2	3.9	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
and heater – published value 3	5.9	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Plate Current (1) – published value 1	1 mA	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Plate Current (1) – published value 2	3 mA	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid No.1 to plate	0.0035 mA	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
PLATE VOLTAGE	330 V	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
GRID-No.3 (SUPPRESSOR-GRID) VOLTAGE	0 V	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
GRID-No.2 (SCREEN-GRID) VOLTAGE	165 V	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Positive bias value	0 V	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
PLATE DISSIPATION – published value 1	3 mA	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
PLATE DISSIPATION – published value 2	3 mA	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater negative with respect to cathode	100 V	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
Heater positive with respect to cathode	100 V	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
For cathode-bias operation – published value 1	0 mA	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.
For cathode-bias operation – published value 2	5 mA	Published datasheet value; multiple values on a source row represent separate source-table conditions or limits.

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