

ELECTRONIC TUBE REFERENCE

6CF6

Voltage Pentode - Sharp Cutoff (single) electronic tube

CONSOLIDATED TECHNICAL DATA
1 SECTION
CONSTRUCTION
PENTODE

Sharp-cutoff pentode for television IF amplification and VHF tuner RF 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	300000 Ω
TRANSCONDUCTANCE	0.0078 S
MAXIMUM PLATE VOLTAGE	330 V
MAXIMUM SCREEN VOLTAGE	330 V
MAXIMUM PLATE DISSIPATION	2.3 W
MAXIMUM SCREEN DISSIPATION	0.55 W
<i>Sharp-cutoff RF pentode.</i>	

Sharp-cutoff pentode used as a television IF amplifier to about 45 MHz and as an RF amplifier in VHF television tuners.

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
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	—
Grid-to-plate capacitance	0.02 pF	—

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	300 mA	—
Plate voltage	350 V	Typical operating conditions
Plate current	12.5 mA	Typical operating conditions



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

1965 Sylvania Electronic Tubes Vol3

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

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 0hm	—
Plate current	12.5 mA	—
Screen-grid current	3.7 mA	—

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate resistance	300000 0hm	—
Transconductance	7800 uS	—
Control-grid cutoff voltage	-6 V	—

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

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Output capacitance	2 pF	Unshielded



SOURCE DATA APPENDIX

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

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage	6.3 V	—
Heater Current	300 mA	—
Transconductance	7800 uS	RepresentativePublishedPoint
Plate Resistance	300000 ohm	RepresentativePublishedPoint

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum Plate Voltage	300 V	—
Maximum Plate Dissipation	2 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	0.025 pF	WithoutShield

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-to-plate capacitance	0.015 pF	WithShield
Input capacitance	6.5 pF	WithoutShield
Output capacitance	2 pF	WithoutShield
Output capacitance	3 pF	WithShield

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	12.5 mA	ClassA
Grid #2 current	3.7 mA	ClassA

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate current at grid #1 -3 V	2.2 mA	—


SOURCE DATA APPENDIX

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
about	45 MHz	Published in approved 6CF6 target datasheet entry; Section1
Heater Voltage (ac/dc) 3.15 4.2	6.3 V	Published in approved 6CF6 target datasheet entry; Section1
Heater Current 0.6 0.45	300 mA	Published in approved 6CF6 target datasheet entry; Section1
Heater Warm-up Time (Average) 11 11	11 seconds	Published in approved 6CF6 target datasheet entry; Section1

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage	330 V	Published in approved 6CF6 target datasheet entry; Section1
Grid-No.5 (Suppressor-Grid) Voltage, Positive value	0 V	Published in approved 6CF6 target datasheet entry; Section1
Grid-No.2 Supply Voltage	330 V	Published in approved 6CF6 target datasheet entry; Section1
Grid-No.1 (Control-Grid) Voltage, Positive-bias value	0 V	Published in approved 6CF6 target datasheet entry; Section1
For grid-No.2 voltages between 165 and	330 V	Published in approved 6CF6 target datasheet entry; Section1
Plate Supply Voltage	125 V	Published in approved 6CF6 target datasheet entry; Section1
Cathode-Sias Resistor	56 Ω	Published in approved 6CF6 target datasheet entry; Section1
Grid-No.2 Current	3.7 mA	Published in approved 6CF6 target datasheet entry; Section1
Grid-No.1 $V_{oJt\&ge}$ (Approx.) for plate current of 20 μ A	-6.5 V	Published in approved 6CF6 target datasheet entry; Section1
Grid-No.1 Voltage (Approx.) for plate current of	2.8 mA	Published in approved 6CF6 target datasheet entry; Section1
Grid-No.1 Voltage (Approx.) for plate current of 2.8 mA	-3 V	Published in approved 6CF6 target datasheet entry; Section1

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid No. 3. and Internal Shield 6.5	6.6 pF	Published in approved 6CF6 target datasheet entry; Section1