

ELECTRONIC TUBE REFERENCE

4DE6

Voltage Pentode - Sharp Cutoff (single) electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

PENTODE

Sharp-cutoff pentode designed for television IF, picture-IF, video, or VHF tuner amplifier service.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	7
NOMINAL HEATER	4.2 V / 450 mA	PARALLEL HEATER	— / —
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION1 Pentode	
PLATE RESISTANCE	250000 Ω
TRANSCONDUCTANCE	0.005 S
MAXIMUM PLATE VOLTAGE	330 V
MAXIMUM SCREEN VOLTAGE	330 V
MAXIMUM PLATE DISSIPATION	1.7 W
MAXIMUM SCREEN DISSIPATION	0.55 W
Reference/equivalence-only source: ratings/characteristics for this section are not reproduced; missing promoted values intentionally not inferred from the external 6DE6 datasheet.	

Sharp-cutoff miniature pentode for gain-controlled television picture-IF stages around 40 MHz and VHF tuner RF amplification.



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
OperatingFrequency	40 MHz	VideoIF



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1966 Tung Sol Electronic Tubes 1 of 4

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

1966 TUNG SOL ELECTRONIC TUBES 1 OF 4

Section 1 · Pentode

CAPACITANCE

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-to-plate capacitance maximum	0.025 pF	Section1
Input capacitance	6.5 pF	Section1
Output capacitance	2 pF	Section1

OTHER

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	125 V	VideoIF
Screen voltage	125 V	VideoIF
Cathode-bias resistor	56 Ω	VideoIF
Plate current	15.5 mA	VideoIF
Screen current	4.2 mA	VideoIF

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate resistance	0.25 MΩ	Section1
Transconductance	9000 μS	Section1
Transconductance at cutoff-bias condition	700 μS	Section1



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

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
Heater Voltage	4.2 V	—
Heater Current	450 mA	—



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1971 RCA HB3 Binder 4 of 7

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

1971 RCA HB3 BINDER 4 OF 7

Section 1 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Current	420 mA–480 mA	Published nominal ± tolerance
Heater Voltage	4.2 V	At heater current 0.45 A
Warm-Up Time	11 s	Average

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage	330 V	Inherited from explicitly referenced 6-volt parent type; heater variant
Screen Supply Voltage	330 V	Inherited from explicitly referenced 6-volt parent type; heater variant
Plate Dissipation	2.3 W	Inherited from explicitly referenced 6-volt parent type; heater variant
Screen Dissipation	0.55 W	Inherited from explicitly referenced 6-volt parent type; heater variant

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconductance	8000 μS	Inherited from explicitly referenced 6-volt parent type; heater variant


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
Peak value +300	-5500 V	Published in approved 4DE6 target entry; Section1
Average value -f-100	900 V	Published in approved 4DE6 target entry; Section1
Tube Voltage Drop for plate current of	350 mA	Published in approved 4DE6 target entry; Section1
Tube Voltage Drop for plate current of 350 mA	34 V	Published in approved 4DE6 target entry; Section1
frequency in the order of	40 MHz	Published in approved 4DE6 target entry; Section1
Heater Voltage (ac/dc) 4.2	6.3 V	Published in approved 4DE6 target entry; Section1
Heater Current 0.45	300 mA	Published in approved 4DE6 target entry; Section1

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Warm-up Time (Average)	11 seconds	Published in approved 4DE6 target entry; Section1
Plate Voltage	330 V	Published in approved 4DE6 target entry; Section1
Grid-No. 3 (Suppressor-Grid) Voltage, Positive value	0 V	Published in approved 4DE6 target entry; Section1
Grid-No.2 (Screen-Grid) Supply Voltage	330 V	Published in approved 4DE6 target entry; Section1
Grid-No. I (Control-Grid) Voltage, Positive-bias value	0 V	Published in approved 4DE6 target entry; Section1
Plate Dissipation	2.3 W	Published in approved 4DE6 target entry; Section1
For grid-No.2 voltages up to	165 V	Published in approved 4DE6 target entry; Section1
For grid-No.2 voltages up to 165 volts	0.55 W	Published in approved 4DE6 target entry; Section1
For grid-No.2 voltages between 165 and	330 V	Published in approved 4DE6 target entry; Section1
Grid-No.1 Voltage (Approx.) for plate current of 20 fiA	-9 V	Published in approved 4DE6 target entry; Section1

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid No.3, and Internal Shield 6.5	6.5 pF	Published in approved 4DE6 target entry; Section1
and Internal Shield	2 pF	Published in approved 4DE6 target entry; Section1

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Supply Voltage	125 V	Published in approved 4DE6 target entry; Section1
Cathode-Bias Resistor	66 Ω	Published in approved 4DE6 target entry; Section1
Plate Resistance (Approx.)	0.25 MΩ	Published in approved 4DE6 target entry; Section1
Transconductance	8000 μS	Published in approved 4DE6 target entry; Section1
of	0 Ω	Published in approved 4DE6 target entry; Section1

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Current	15.5 mA	Published in approved 4DE6 target entry; Section1
Heater Voltage (ac/dc) 6.3 9.7	13 V	Published in approved 4DE6 target entry; Section1
Heater Current 0.9 0.6	450 mA	Published in approved 4DE6 target entry; Section1
Heater Warm-up Time (Average) – 11	11 seconds	Published in approved 4DE6 target entry; Section1