



ELECTRONIC TUBE REFERENCE

6ET7

Voltage - Pentode or Tetrode (with diode) electronic tube

CONSOLIDATED TECHNICAL DATA

3 SECTIONS

CONSTRUCTION

DIODE-DIODE-PENTODE

Double-diode pentode combining detector and control-voltage rectification with signal amplification. Paired diodes permit complementary detection or control functions while the pentode supplies the active gain stage.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	9
NOMINAL HEATER	6.3 V / 750 mA	PARALLEL HEATER	— / —
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Dissimilar

SECTION RATINGS

SECTION1 Diode

No fixed ratings recorded.

First separate diode section of Sylvania 6ET7 double-diode pentode with 6.3 V 0.750 A heater (8ET7 alternate heater 8.0 V 0.600 A). Diode-to-other electrodes capacitance approx 1.5 pF and diode cathode/shield reference approx 7.5 pF; coupling to pentode grid-1 max 0.005 pF, to pentode plate max 0.02 pF. Manufacturer typical average diode current 1.5 mA at 10 V DC applied is a test condition, not an absolute diode current maximum. Distinct physical diode retained.

SECTION2 Diode

No fixed ratings recorded.

Second separate physical diode of Sylvania 6ET7 double-diode pentode, with common parent heater 6.3 V 750 mA. Manufacturer typical diode current ~1.5 mA at 10 V DC applied per diode, not an unconditional maximum. Direct capacitance approx 1.5 pF for diode plate-to-other electrodes; diode-to-pentode input and output coupling limits published. Two diode rows represent actual separate physical diodes and must not be compressed.

SECTION3 Pentode	
PLATE RESISTANCE	60000 Ω
TRANSCONDUCTANCE	0.0115 S
MAXIMUM PLATE VOLTAGE	330 V
MAXIMUM PLATE DISSIPATION	5 W
MAXIMUM SCREEN DISSIPATION	1.1 W
<i>Sylvania 6ET7 sharp-cutoff pentode section in double-diode pentode for receiver/video amplification and detector applications; 6ET7 heater 6.3 V 0.750 A; 8ET7 is separate 8 V 0.600 A variant. Pentode design-maximum plate 330 V, plate dissipation 5 W, screen grid-2 dissipation 1.1 W; screen-grid SUPPLY limit 330 V but actual electrode screen voltage conditional on manufacturer rating chart and not promoted to unconditional max_screen_voltage. Class A1 typical Va 200 V, Vg2 150 V, cathode resistor 100 Ω: plate current 25 mA, screen current 5.5 mA, gm 11500 μmhos (0.0115 S), approximate plate resistance 60 kΩ. Unshielded grid-to-plate capacitance max 0.1 pF, input 10 pF, output 4.2 pF. Two physically distinct diode sections with capacitances and test currents remain separate.</i>	

Duo-diode pentode combining two diode sections with a pentode amplifier section.

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1950 Sylvania

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

1950 SYLVANIA

Section 3 · Pentode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage ccciiiiinnnnnn 6.3 8.0 Volts	8 V	Heater Voltage ccciiiiinnnnnn 6.3 8.0 Volts
Heater Current. iiiinn.. 750 600 Ma	600 mA	Heater Current. iiiinn.. 750 600 Ma
Output: p to (h+Pk,q3,1.8.,02+ Dk,DSh)..... 4.2 uuf	4.2 pF	Output: p to (h+Pk,q3,1.8.,02+ Dk,DSh)..... 4.2 uuf
Plate Voltage. coiiiiiii i 200 Volts	200 V	Plate Voltage. coiiiiiii i 200 Volts
Grid No.2 Voltage. coiiiiiiiinnnnnnnn 150 Volts	150 V	Grid No.2 Voltage. coiiiiiiiinnnnnnnn 150 Volts
Plate Current. ittt i, 25 Ma	25 mA	Plate Current. ittt i, 25 Ma
Grid No. 2 Current 5.5 Ma	5.5 mA	Grid No. 2 Current 5.5 Ma
Plate Resistance (approx.)..... ... 60,000 Ohms	60 Ohms	Plate Resistance (approx.)..... 60,000 Ohms
Average Diode Current W th 10 Volts D C Applied	10 V	Average Diode Current W th 10 Volts D C Applied

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum Heater Current Range. 560-640 Ma	-640 mA	Maximum Heater Current Range. 560-640 Ma

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid No. 2 Supply Voltage. 330 V coo... 330 Volts Max.		Grid No. 2 Supply Voltage. 330 Volts Max.
Grid No.2 Voltage. 2 V coivvirininninannnen See Rating Chart		Grid No.2 Voltage. See Rating Chart
Positive Grid No. 1 Voltage. 0 V 0 Volts Max.		Positive Grid No. 1 Voltage. 0 Volts Max.
Plate Dissipation..... .. 5 W 0 iiiiiiiinann 5.0 Watts Max.		Plate Dissipation..... .. 5.0 Watts Max.
Grid No. 2 Dissipation. 1.1 W cciiivirnnn 1.1 Watts Max.		Grid No. 2 Dissipation. 1.1 Watts Max.

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