



ELECTRONIC TUBE REFERENCE

5AS8

Voltage Pentode or Tetrode (with diode) electronic tube

CONSOLIDATED TECHNICAL DATA

2 SECTIONS

CONSTRUCTION

DIODE-PENTODE

General-purpose combination of a high-perveance diode and sharp-cutoff pentode for receiver detector and amplifier applications.

GENERAL CHARACTERISTICS

BASE DESIGNATION	9DB	BASE PINS	9
NOMINAL HEATER	4.7 V / 600 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Dissimilar

SECTION RATINGS

SECTION1 Diode	
PLATE RESISTANCE	300 Ω
PEAK INVERSE VOLTAGE	330 V
NOMINAL OUTPUT CURRENT	5 A
PEAK FORWARD CURRENT	50 A
MAXIMUM HEATER-CATHODE VOLTAGE	200 V
WARM-UP TIME	11 s
<i>High-perveance detector/restorer diode section.</i>	

SECTION2 Pentode	
PLATE RESISTANCE	300000 Ω
TRANSCONDUCTANCE	0.0062 S
MAXIMUM PLATE VOLTAGE	300 V
MAXIMUM SCREEN VOLTAGE	300 V
MAXIMUM PLATE DISSIPATION	2.5 W
MAXIMUM SCREEN DISSIPATION	0.5 W
MAXIMUM HEATER-CATHODE VOLTAGE	200 V
WARM-UP TIME	11 s
<i>Sharp-cutoff pentode for IF/video/AGC amplification.</i>	

General-purpose diode-pentode combining a high-perveance diode with a sharp-cutoff pentode.

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

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

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Section 1 · Diode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
PLATE TO HEATER &CATHODE &INTERNAL SHIELD	3 pF	Diode Unit PLATE TO HEATER &CATHODE &INTERNAL SHIELD 3.0 pf

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Section 2 · Pentode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
PENTODE GRID TO DIODE PLATE (MAX.)	0.005 pF	Pentode Unit PENTODE GRID TO DIODE PLATE (MAX.) 0.005 pf
PENTODE PLATE TO DIODE CATHODE (MAX.)	0.15 pF	Pentode Unit PENTODE PLATE TO DIODE CATHODE (MAX.) 0.15 pf
PENTODE PLATE TO DIODE PLATE (MAX.)	0.1 pF	Pentode Unit PENTODE PLATE TO DIODE PLATE (MAX.) 0.10 pf
POSITIVE BIAS VALUE	0 V	Pentode Unit POSITIVE BIAS VALUE 0 VOLTS
CATHODE BIAS OPERATION	1 Mohm	Pentode Unit CATHODE BIAS OPERATION 1.0 MEGOHM
FIXED BIAS OPERATION	0.25 Mohm	Pentode Unit FIXED BIAS OPERATION 0.25 MEGOHM

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
HEATER WARM-UP TIME APPROX	11 s	Average Characteristics HEATER WARM-UP TIME APPROX. 11 SECONDS
LIMITS OF SUPPLIED CURRENT	40 mA	Average Characteristics LIMITS OF SUPPLIED CURRENT 600 ± 40 MA
HEATER NEGATIVE WITH RESPECT TO CATHODE	200 V	Average Characteristics HEATER NEGATIVE WITH RESPECT TO CATHODE 200 VOLTS

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
MAXIMUM PLATE VOLTAGE	300 V	Pentode Unit MAXIMUM PLATE VOLTAGE 300 VOLTS
MAXIMUM GRID p	0 V	Pentode Unit MAXIMUM GRID p3 VOLTAGE 0 VOLTS
MAXIMUM GRID it	300 V	Pentode Unit MAXIMUM GRID it2 SUPPLY VOLTAGE 300 VOLTS
MAXIMUM PLATE DISSIPATION	2.5 W	Pentode Unit MAXIMUM PLATE DISSIPATION 2.5 WATTS
MAXIMUM GRID k	0.5 W	Pentode Unit MAXIMUM GRID k2 INPUT 0.5 WATT
MAXIMUM PEAK INVERSE PLATE VOLTAGE	330 V	Pentode Unit MAXIMUM PEAK INVERSE PLATE VOLTAGE 330 VOLTS
MAXIMUM PEAK PLATE CURRENT	50 mA	Pentode Unit MAXIMUM PEAK PLATE CURRENT 50 MA
MAXIMUM DC PLATE CURRENT	5 mA	Pentode Unit MAXIMUM DC PLATE CURRENT 5 MA
PLATE SUPPLY VOLTAGE	200 V	Typical Operating Conditions PLATE SUPPLY VOLTAGE 200 VOLTS
GRID k	150 V	Typical Operating Conditions GRID k2 SUPPLY VOLTAGE 150 VOLTS
CATHODE BIAS RESISTOR	160 ohm	Typical Operating Conditions CATHODE BIAS RESISTOR 160 OHMS
PLATE CURRENT	9.5 mA	Typical Operating Conditions PLATE CURRENT 9.5 MA
GRID b	3 mA	Typical Operating Conditions GRID b2 CURRENT 3 MA
TRANSCONDUCTANCE	6.2 MMHOS	Typical Operating Conditions TRANSCONDUCTANCE 6.200 μ MHOS
PLATE RESISTANCE (APPRO X.)	300 ohm	Typical Operating Conditions PLATE RESISTANCE (APPRO X.) 300.000 OHMS
GRID qI BI AS (APPROX.) FOR I y	8 V	Typical Operating Conditions GRID qI BI AS (APPROX.) FOR I y =10 μ A —8 VOLTS
GRID	2 V	Typical Operating Conditions GRID 2 VOLTS



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

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Section 1 · Diode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum peak inverse plate voltage	330 V	DiodeSection
Maximum peak plate current	50 mA	DiodeSection
Maximum DC plate current	5 mA	DiodeSection

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Section 2 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	200 V	ClassA1
Grid 2 voltage	150 V	ClassA1
Cathode resistor	180 ohm	ClassA1
Plate current	9.5 mA	ClassA1
Grid 2 current	3 mA	ClassA1

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate resistance	300000 ohm	ClassA1
Transconductance	6200 uS	ClassA1
Grid 1 cutoff reference voltage	-8 V	ClassA1
Heater warm-up time	11 s	ControlledWarmUp