



ELECTRONIC TUBE REFERENCE

6FA7

Voltage - Pentode or Tetrode (with diode) electronic tube

CONSOLIDATED TECHNICAL DATA

2 SECTIONS

CONSTRUCTION

DIODE-TETRODE

Diode and twin-plate tetrode designed specifically for frequency-divider and complex-wave-generator circuits, combining switching or waveform generation with an integrated rectifying/control diode.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	9
NOMINAL HEATER	6.3 V / 300 mA	PARALLEL HEATER	— / —
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Dissimilar

SECTION RATINGS

SECTION1 Diode

No fixed ratings recorded.

Published maximum ratings and characteristic values promoted where applicable; additional values retained in TUBE_SECTION_PARAMETER.

SECTION2 Tetrode

PLATE RESISTANCE	90000 Ω
TRANSCONDUCTANCE	0.0032 S
MAXIMUM PLATE VOLTAGE	330 V
MAXIMUM SCREEN VOLTAGE	330 V
<i>Published maximum ratings and characteristic values promoted where applicable; additional values retained in TUBE_SECTION_PARAMETER.</i>	

Diode and twin-plate tetrode for frequency-divider and complex-wave generator circuits. The supplied RCA datasheet was reviewed for heater data, maximum ratings, characteristics, typical operating

conditions, capacitances, and application-specific electrical information.

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

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Voltage (AC or DC) – published value 1	6.3 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Voltage (AC or DC) – published value 2	10 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Current at 6.3 volts – published value 1	6.3 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Current at 6.3 volts – published value 2	0.3 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Grid No.1 to plate A	0.04	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
shield, grid No. 2, and heater – published value 1	2	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
shield, grid No. 2, and heater – published value 2	5.5	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
shield, grid No.2, and heater	1.8	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Plate Voltage	100 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Grid-No.2 Voltage	100 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-No.1 Supply Voltage	0 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Grid-No.1 Resistor (Bypassed)	2.2 Mohm	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Plate Resistance (Approx)	90000 ohm	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Transconductance	3200	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Plate Current	3.8 mA	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Grid-No.2 Current	1.7 mA	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
plate μ a = 20 – published value 1	20 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
plate μ a = 20 – published value 2	-4 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
A/1~ Grid-No.1 Supply Voltage – published value 1	1 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
A/1~ Grid-No.1 Supply Voltage – published value 2	0 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
F'' ~ Grid-No.1 Resistor (Bypassed)	2.2 Mohm	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Plate Resistance (Approx)	130000 ohm	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Transconductance	1900	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Plate Current	2.2 mA	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-No.2 Current	3 mA	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Pin 3-Diode Plate	3	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Pin 5 -Heater	5	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
between 165 and 330 volts .See Grid-No.a Input Rating Chart – published value 1	165 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
between 165 and 330 volts .See Grid-No.a Input Rating Chart – published value 2	330 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Plate Current for plate volts = 10 – published value 1	10 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Plate Current for plate volts = 10 – published value 2	2 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
GRID–NQ2 VOLTS=100	100 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid No.1 to plate B	0.03 mA	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
PLATE A VOLTAGE	330 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
PLATE B VOLTAGE	33 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
SUPPLY VOLTAGE	330 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Negative-bias value	50 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Positive-bias value	0 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
PLATE A DISSIPATION – published value 1	1 mA	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
PLATE A DISSIPATION – published value 2	5 mA	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
PLATE 6 DISSIPATION – published value 1	6 mA	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
PLATE 6 DISSIPATION – published value 2	1 mA	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
PLATE 6 DISSIPATION – published value 3	5 mA	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Heater negative with respect to cathode	200 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Heater positive with respect to cathode	200 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
For grid-No.1-resistor-bias operation	2.2 mA	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
PLATE CURRENT	1 mA	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.

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Section 2 · Tetrode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	100 V	ClassA
Plate current	3.8 mA	ClassA
Maximum plate voltage	330 V	—
Maximum screen-grid voltage	330 V	—
Tetrode plate A to diode plate	0.02 mA	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate resistance	90000 ohm	ClassA
Transconductance	3200 uS	ClassA
Tetrode grid No.1 to diode plate	0.022	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Tetrode plate B to diode plate – published value 1	0	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Tetrode plate B to diode plate – published value 2	55	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Pin 1-Tetrode – published value 1	1	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Pin 1-Tetrode – published value 2	6	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Pin 4 -Heater – published value 1	4	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Pin 4 -Heater – published value 2	8	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.

TUBE TINKER

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