



ELECTRONIC TUBE REFERENCE

6FD7

Power - TV Vertical Output electronic tube

CONSOLIDATED TECHNICAL DATA

2 SECTIONS

CONSTRUCTION

TRIODE-TRIODE

Dual triode intended for television vertical-deflection service, combining oscillator/driver and power-output functions where applicable. Manufacturer data emphasize vertical-sweep operation, pulse-voltage capability, and the stronger section's current and dissipation requirements.

GENERAL CHARACTERISTICS

BASE DESIGNATION	9HF	BASE PINS	9
NOMINAL HEATER	6.3 V / 925 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Dissimilar

9HF - TERMINAL PINOUT

TERMINAL	SECTION	ELEMENT	STATUS
PIN1	B	P – Plate (Anode)	CONNECTED
PIN2	B	G1 – Control Grid	CONNECTED
PIN3	B	G3 – Suppressor Grid	CONNECTED
PIN4	–	H – Heater	CONNECTED
PIN5	–	H – Heater	CONNECTED
PIN6	A	P – Plate (Anode)	CONNECTED
PIN7	A	G1 – Control Grid	CONNECTED
PIN8	A	K – Cathode	CONNECTED
PIN9	B	K – Cathode	CONNECTED

SECTION RATINGS

SECTION1 Triode	
PLATE RESISTANCE	40000 Ω
TRANSCONDUCTANCE	0.0016 S
AMPLIFICATION FACTOR	64
MAXIMUM PLATE VOLTAGE	330 V
MAXIMUM PLATE DISSIPATION	1.5 W
MAXIMUM CATHODE CURRENT	20 mA
<i>Published values promoted where clearly attributable to this section.</i>	

SECTION2 Triode	
PLATE RESISTANCE	800 Ω
TRANSCONDUCTANCE	0.0075 S
AMPLIFICATION FACTOR	6
MAXIMUM PLATE VOLTAGE	330 V
MAXIMUM PLATE DISSIPATION	10 W
MAXIMUM CATHODE CURRENT	50 mA
<i>Published maximum ratings and characteristic values promoted where applicable; additional values retained in TUBE_SECTION_PARAMETER.</i>	

Dissimilar dual triode used as a combined vertical-deflection oscillator and vertical-deflection amplifier in television receivers.

SOURCE OPERATING CONDITIONS

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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 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	250 V	ClassA
Plate current	1.4 mA	ClassA
Maximum plate voltage	330 V	—
respect to cathode	200 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
respect to cathode	200 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
DC PLATE VOLTAGE	330 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
PEAK NEGATIVE-PULSE GRID VOLTAGE	400 V	Pulse
PLATE DISSIPATION	1.5 mA	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
bias operation	2.2 mA	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
DC PLATE VOLTAGE	330 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
PEAK POSITIVE-PULSE PLATE VOLTAGE _e	1500 V	Pulse
PEAK NEGATIVE-PULSE GRID VOLTAGE	250 V	Pulse

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
PLATE DISSIPATION	10 mA	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate resistance	40000 ohm	ClassA
Transconductance	1600 uS	ClassA
Amplification factor	64	ClassA
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	0.6 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Current at heater volts = 6 3 – published value 1	6 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Current at heater volts = 6 3 – published value 2	3 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Current at heater volts = 6 3 – published value 3	0.925 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Grid to plate – published value 1	4.5	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Grid to plate – published value 2	10	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Grid to cathode and heater – published value 1	2.2	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Grid to cathode and heater – published value 2	6.5	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Plate to cathode and heater – published value 1	0.4	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Plate to cathode and heater – published value 2	1.2	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage – published value 1	250 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Plate Voltage – published value 2	60 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Plate Voltage – published value 3	150 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Grid Voltage – published value 1	-3 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Grid Voltage – published value 2	0 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Grid Voltage – published value 3	-17.5 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Plate Resistance (Approx.) – published value 1	40000 ohm	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Plate Resistance (Approx.) – published value 2	800 ohm	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Transconductance – published value 1	1600	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Transconductance – published value 2	7500	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Plate Current – published value 1	1.4 mA	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Plate Current – published value 2	950 mA	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Plate Current – published value 3	40 mA	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Pin 1 -Plate of – published value 1	1	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Pin 1 -Plate of – published value 2	6	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Pin 2 -Grid of – published value 1	2	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Pin 2 -Grid of – published value 2	7	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Pin 3-Grid of – published value 1	3	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Pin 3-Grid of – published value 2	8	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	9	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.

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Section 2 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	150 V	ClassA
Plate current	40 mA	ClassA
Maximum plate voltage	330 V	—

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate resistance	800 ohm	ClassA
Transconductance	7500 uS	ClassA
Amplification factor	6	ClassA
Pin 5 -Heater	5	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.

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 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage (ae/dc) 6.3	13 V	Published in approved 6FD7 target entry; Section1
Heater Current 0.925	450 mA	Published in approved 6FD7 target entry; Section1
Heater Warm-up Time (Average)	11 seconds	Published in approved 6FD7 target entry; Section1
Transconductance, For plate current of	1 mA	Published in approved 6FD7 target entry; Section1
Plate Current, For grid voltage of	25 V	Published in approved 6FD7 target entry; Section1
Plate Current, For grid voltage of 25 volts	6 mA	Published in approved 6FD7 target entry; Section1
DC Plate Voltage 330	330 V	Published in approved 6FD7 target entry; Section1
400	250 V	Published in approved 6FD7 target entry; Section1
Peak Cathode Current 70	175 mA	Published in approved 6FD7 target entry; Section1
Average Cathode Current 20	50 mA	Published in approved 6FD7 target entry; Section1
Plate Dissipation 1.5	10 W	Published in approved 6FD7 target entry; Section1
For grid-resistor-bias or cathode-bias operation 2.2	2.2 MΩ	Published in approved 6FD7 target entry; Section1

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid to Plate 4.5	10 pF	Published in approved 6FD7 target entry; Section1
Grid to Cathode and Heater 2.2	6.5 pF	Published in approved 6FD7 target entry; Section1
Plate to Cathode and Heater 0.4	0.2 pF	Published in approved 6FD7 target entry; Section1

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage 250 60	150 V	Published in approved 6FD7 target entry; Section1
Grid Voltage -3 0	-17.5 V	Published in approved 6FD7 target entry; Section1
Plate Resistance (Approx.) 40000	800 Ω	Published in approved 6FD7 target entry; Section1
Transconductance 1600	7500 μ S	Published in approved 6FD7 target entry; Section1
Plate Current 1.5 95	40 mA	Published in approved 6FD7 target entry; Section1

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Section 2 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage (ae/dc) 6.3	13 V	Published in approved 6FD7 target entry; Section2
Heater Current 0.925	450 mA	Published in approved 6FD7 target entry; Section2
Heater Warm-up Time (Average)	11 seconds	Published in approved 6FD7 target entry; Section2
Transconductance, For plate current of	1 mA	Published in approved 6FD7 target entry; Section2
Plate Current, For grid voltage of	25 V	Published in approved 6FD7 target entry; Section2
Plate Current, For grid voltage of 25 volts	6 mA	Published in approved 6FD7 target entry; Section2
DC Plate Voltage 330	330 V	Published in approved 6FD7 target entry; Section2

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
400	250 V	Published in approved 6FD7 target entry; Section2
Peak Cathode Current 70	175 mA	Published in approved 6FD7 target entry; Section2
Average Cathode Current 20	50 mA	Published in approved 6FD7 target entry; Section2
Plate Dissipation 1.5	10 W	Published in approved 6FD7 target entry; Section2
For grid-resistor-bias or cathode-bias operation 2.2	2.2 MΩ	Published in approved 6FD7 target entry; Section2

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid to Plate 4.5	10 pF	Published in approved 6FD7 target entry; Section2
Grid to Cathode and Heater 2.2	6.5 pF	Published in approved 6FD7 target entry; Section2
Plate to Cathode and Heater 0.4	0.2 pF	Published in approved 6FD7 target entry; Section2

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage 250 60	150 V	Published in approved 6FD7 target entry; Section2
Grid Voltage -3 0	-17.5 V	Published in approved 6FD7 target entry; Section2
Plate Resistance (Approx.) 40000	800 Ω	Published in approved 6FD7 target entry; Section2
Transconductance 1600	7500 μS	Published in approved 6FD7 target entry; Section2
Plate Current 1.5 95	40 mA	Published in approved 6FD7 target entry; Section2