



ELECTRONIC TUBE REFERENCE

6FM7

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	12EJ	BASE PINS	12
NOMINAL HEATER	6.3 V / 1.05 A	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Dissimilar

SECTION RATINGS

SECTION1 Triode	
PLATE RESISTANCE	30000 Ω
TRANSCONDUCTANCE	0.0022 S
AMPLIFICATION FACTOR	66
MAXIMUM PLATE VOLTAGE	350 V
MAXIMUM PLATE DISSIPATION	1 W
Section 1, vertical oscillator service.	

SECTION 2 Triode	
PLATE RESISTANCE	920 Ω
TRANSCONDUCTANCE	0.006 S
AMPLIFICATION FACTOR	5.5
MAXIMUM PLATE VOLTAGE	550 V
MAXIMUM PLATE DISSIPATION	10 W
MAXIMUM CATHODE CURRENT	50 mA
<i>Section 2, vertical-deflection amplifier service; 50 mA DC cathode-current maximum.</i>	

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



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 2 · Triode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Current ittt iiiiinecrenns 450 450 1005 Ma	1005 mA	Heater Current ittt iiiiinecrenns 450 450 1005 Ma
Output: Pto (h 4 K) ittt i i it et et neiaannnnn 0.40 1.1 Pf	1.1 Pf	Output: Pto (h 4 K) ittt i i it et et neiaannnnn 0.40 1.1 Pf
Plate Voltage ... oo i e et e 250 175 Volts	175 V	Plate Voltage ... oo i e et e 250 175 Volts
Grid No. 1 Voltage .. i i. it ieeenn -3 -25 Volts	-25 V	Grid No. 1 Voltage .. i i. it ieeenn -3 -25 Volts
Plate Current i i i e e 2.0 40 Ma	40 mA	Plate Current i i i e e 2.0 40 Ma
Transconductance iiiiiiiiiiiiirerninreianeenns 2200 6000 umhos	6000 umhos	Transconductance iiiiiiiiiiiiirerninreianeenns 2200 6000 umhos
OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage (MaX.) .i.iiiiiiiiiiiieinneirsrecscanssacsns 350 550 Volts	550 V	Plate Voltage (MaX.) .i.iiiiiiiiiiiieinneirsrecscanssacsns 350 550 Volts
Peak Positive Pulse Plate Voltage (Max.) cccevvunne. — 1500 Volts	1500 V	Peak Positive Pulse Plate Voltage (Max.) cccevvunne. — 1500 Volts
Peak Negative Puise Grid Voltage (Max.) 400 250 Volts	250 V	Peak Negative Puise Grid Voltage (Max.) 400 250 Volts
Plate Dissipation (Max.)®) ...t iiiiinrerrennnneanns 1.0 10 Watts	10 W	Plate Dissipation (Max.)®) ...t iiiiinrerrennnneanns 1.0 10 Watts
Average Cathode Current (Max.).....viiverinvenanenarnns — 50 Ma	50 mA	Average Cathode Current (Max.).....viiverinvenanenarnns — 50 Ma

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak Cathode Current (Max.) cvviirivirncennnsannens – 175 Ma	175 mA	Peak Cathode Current (Max.) cvviirivirncennnsannens — 175 Ma
Grid Circuit Resistance, Self Bias (Max.) cccevuuun. 2.2 2.2 Megohms	2.2 Megohms	Grid Circuit Resistance, Self Bias (Max.) cccevuuun. 2.2 2.2 Megohms


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 · Triode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage	250 V	Oscillator
Plate Current	20 mA	Oscillator

1968 GENERAL ELECTRIC CO

Section 2 · Triode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage	175 V	Amplifier
Plate Current	40 mA	Amplifier

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak Positive Pulse Plate Voltage	1500 V	VerticalDeflectionAmplifier
Peak Cathode Current	175 mA	VerticalDeflectionAmplifier


SOURCE DATA APPENDIX

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 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	250 V	ClassA
Plate current	2 mA	ClassA
Maximum plate voltage	350 V	—

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate resistance	30000 ohm	ClassA
Transconductance	2200 uS	ClassA
Voltage (AC or DC) – published value 1	6 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Voltage (AC or DC) – published value 2	3 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Voltage (AC or DC) – published value 3	0.6 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	1.05 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Grid to plate – published value 1	4 pF	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Grid to plate – published value 2	7 pF	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Input: G to (K, H) – published value 1	2.4 pF	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Input: G to (K, H) – published value 2	7 pF	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Output: P to (K, H) – published value 1	0.4 pF	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Output: P to (K, H) – published value 2	1.1 pF	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Pin 1 -Heater	1	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Pin 9 -Cathode of Unit No.1	9	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Pin 10 -Grid of Unit No.1	10	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Pin 11 - Plate of Unit No.1	11	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Pin 12 -Heater	12	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
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	175 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	-25 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Plate Resistance (Approx.) – published value 1	30000 ohm	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Resistance (Approx.) – published value 2	920 ohm	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Transconductance – published value 1	2200	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Transconductance – published value 2	6000	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Plate Current – published value 1	2 mA	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Plate Current – published value 2	95 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.
DC Plate Voltage – published value 1	350 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
DC Plate Voltage – published value 2	550 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Voltage	1500 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Voltage – published value 1	400 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Voltage – published value 2	250 V	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Plate Dissipation – published value 1	1 W	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Plate Dissipation – published value 2	10 W	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
For fixed-bias operation – published value 1	1 Mohm	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
For fixed-bias operation – published value 2	1 Mohm	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
For cathode-bias operation – published value 1	2.2 Mohm	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
For cathode-bias operation – published value 2	2.2 Mohm	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.

1971 RCA HB3 BINDER 4 OF 7

Section 2 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	175 V	ClassA
Plate current	40 mA	ClassA
Maximum plate voltage	550 V	—

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate resistance	920 ohm	ClassA
Transconductance	6000 uS	ClassA
Pin 3 -Grid of Unit No.2	3	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Pin 5- Plate of Unit No.2	5	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Pin 7 -Cathode of Unit No.2	7	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.
Pin 8 -Grid of Unit No.2	8	Published datasheet value; multiple numbers on one source row represent separate limits or operating conditions.



SOURCE DATA APPENDIX

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 (ac/dc) 6.3	13 V	Published in approved 6FM7 target entry; Section1
Heater Current 1.05	450 mA	Published in approved 6FM7 target entry; Section1
Heater Warm-up Time (Average)	11 seconds	Published in approved 6FM7 target entry; Section1
–	45 V	Published in approved 6FM7 target entry; Section1
DC Plate Voltage 350	500 V	Published in approved 6FM7 target entry; Section1
Peak Positive-Pulse Plate Voltage*	1500 V	Published in approved 6FM7 target entry; Section1
Peak Negative-Pulse Plate Voltage 400	250 V	Published in approved 6FM7 target entry; Section1
Average Cathode Current	50 mA	Published in approved 6FM7 target entry; Section1
Plate Dissipation! 1	10 W	Published in approved 6FM7 target entry; Section1
For fixed-bias operation 1	1 MΩ	Published in approved 6FM7 target entry; Section1
For cathode-bias operation 2.2	2.2 MΩ	Published in approved 6FM7 target entry; Section1

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage 250	175 V	Published in approved 6FM7 target entry; Section1
Grid Voltage –3	-25 V	Published in approved 6FM7 target entry; Section1
Plate Resistance (Approx.) 30000	920 Ω	Published in approved 6FM7 target entry; Section1

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconductance 2200	6000 μS	Published in approved 6FM7 target entry; Section1
Plate Current 2	40 mA	Published in approved 6FM7 target entry; Section1

1975 RCA RC30

Section 2 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage (ac/dc) 6.3	13 V	Published in approved 6FM7 target entry; Section2
Heater Current 1.05	450 mA	Published in approved 6FM7 target entry; Section2
Heater Warm-up Time (Average)	11 seconds	Published in approved 6FM7 target entry; Section2
–	45 V	Published in approved 6FM7 target entry; Section2
DC Plate Voltage 350	500 V	Published in approved 6FM7 target entry; Section2
Peak Positive-Pulse Plate Voltage*	1500 V	Published in approved 6FM7 target entry; Section2
Peak Negative-Pulse Plate Voltage 400	250 V	Published in approved 6FM7 target entry; Section2
Average Cathode Current	50 mA	Published in approved 6FM7 target entry; Section2
Plate Dissipation! 1	10 W	Published in approved 6FM7 target entry; Section2
For fixed-bias operation 1	1 MΩ	Published in approved 6FM7 target entry; Section2
For cathode-bias operation 2.2	2.2 MΩ	Published in approved 6FM7 target entry; Section2

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage 250	175 V	Published in approved 6FM7 target entry; Section2
Grid Voltage –3	-25 V	Published in approved 6FM7 target entry; Section2
Plate Resistance (Approx.) 30000	920 Ω	Published in approved 6FM7 target entry; Section2

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconductance 2200	6000 μS	Published in approved 6FM7 target entry; Section2
Plate Current 2	40 mA	Published in approved 6FM7 target entry; Section2