

ELECTRONIC TUBE REFERENCE

13FM7

Power - TV Vertical Output electronic tube

CONSOLIDATED TECHNICAL DATA

2 SECTIONS

CONSTRUCTION

TRIODE-TRIODE

Duodecar dissimilar dual triode designed for television vertical-deflection systems, combining an oscillator section with a low-mu power-amplifier section. Published ratings include 10 W plate dissipation and high pulse-voltage capability.

GENERAL CHARACTERISTICS

BASE DESIGNATION	12EJ	BASE PINS	12
NOMINAL HEATER	13 V / 450 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Dissimilar

12EJ - TERMINAL PINOUT

TERMINAL	SECTION	ELEMENT	STATUS
PIN1	–	H – Heater	CONNECTED
PIN3	B	G1 – Control Grid	CONNECTED
PIN5	B	P – Plate (Anode)	CONNECTED
PIN6	–	–	IC
PIN7	B	K – Cathode	CONNECTED
PIN8	B	G1 – Control Grid	CONNECTED
PIN9	A	K – Cathode	CONNECTED
PIN10	A	G1 – Control Grid	CONNECTED
PIN11	A	P – Plate (Anode)	CONNECTED
PIN12	–	H – Heater	CONNECTED

SECTION RATINGS

SECTION1 Triode	
PLATE RESISTANCE	40000 Ω
TRANSCONDUCTANCE	0.0015 S
AMPLIFICATION FACTOR	60
MAXIMUM PLATE VOLTAGE	330 V
MAXIMUM PLATE DISSIPATION	1.5 W
MAXIMUM CATHODE CURRENT	20 mA
<i>high-mu</i>	

SECTION2 Triode	
PLATE RESISTANCE	1000 Ω
TRANSCONDUCTANCE	0.007 S
AMPLIFICATION FACTOR	6
MAXIMUM PLATE VOLTAGE	330 V
MAXIMUM PLATE DISSIPATION	10 W
MAXIMUM CATHODE CURRENT	50 mA
<i>low-mu</i>	

Duodecar type used as combined vertical-deflection oscillator and vertical-deflection amplifier in color and oscillator (Type 12EJ) in black-and-white television receivers. Triode unit No.1 is used as an oscillator, and triode unit No.2 is used as an amplifier. Outlines section, 8C; requires duodecar type 12-contact socket. Type 13FM7/15FM7 is identical with 12EJ type 6FM7 except for heater ratings. 6FM7 13FM7/15FM7

SOURCE OPERATING CONDITIONS

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1971 RCA HB3 Binder 5 of 7

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

1971 RCA HB3 BINDER 5 OF 7

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum Plate Voltage	330 V	Inherited from explicitly referenced parent 6FM7.
Plate Dissipation	1.5 W	Inherited from explicitly referenced parent 6FM7.

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Resistance	40000 Ω	Inherited from explicitly referenced parent 6FM7.
Transconductance	1500 μS	Inherited from explicitly referenced parent 6FM7.
Amplification Factor	60	Inherited from explicitly referenced parent 6FM7.

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Section 2 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum Plate Voltage	330 V	Inherited from explicitly referenced parent 6FM7.
Plate Dissipation	10 W	Inherited from explicitly referenced parent 6FM7.

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Resistance	1000 Ω	Inherited from explicitly referenced parent 6FM7.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconductance	7000 μ S	Inherited from explicitly referenced parent 6FM7.
Amplification Factor	6	Inherited from explicitly referenced parent 6FM7.



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

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-No	0.3 mA	Published value from supplied target entry
Grid-No.1-Circuit Resistance, for fixed-bias operation	0.5 megohm	Published value from supplied target entry
Heater Voltage (ac/dc)	13 volts	Published value from supplied target entry
Heater Current	0.45 amperes	Published value from supplied target entry
Heater Warm-up Time (Average)	11 seconds	Published value from supplied target entry
Plate Voltage	175 volts	Published value from supplied target entry
Grid Voltage	-25 volts	Published value from supplied target entry
Amplification Factor	5.5	Published value from supplied target entry
Plate Resistance (Approx.)	920 ohms	Published value from supplied target entry
Transconductance	6000	Published value from supplied target entry
Plate Current	40 mA	Published value from supplied target entry
Grid Voltage (Approx.) for plate current of	5.3 volts	Published value from supplied target entry
Grid Voltage (Approx.) for plate current of	200 mA	Published value from supplied target entry
DC Plate Voltage	500 volts	Published value from supplied target entry

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak Positive-Pulse Plate Voltage*	1500 volts	Published value from supplied target entry
Peak Negative-Pulse Plate Voltage	250 volts	Published value from supplied target entry
Average Cathode Current	50 mA	Published value from supplied target entry
Plate Dissipation!	10 watts	Published value from supplied target entry

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