

ELECTRONIC TUBE REFERENCE

8BM11

Voltage - Dual Pentode electronic tube

CONSOLIDATED TECHNICAL DATA
2 SECTIONS
CONSTRUCTION
PENTODE-PENTODE

Dissimilar dual-pentode television IF amplifier combining a semiremote-cutoff first section with a sharp-cutoff second section for cascaded controlled-gain amplification.

GENERAL CHARACTERISTICS

BASE DESIGNATION	12FU	BASE PINS	12
NOMINAL HEATER	8.4 V / 450 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Dissimilar

12FU - TERMINAL PINOUT

TERMINAL	SECTION	ELEMENT	STATUS
PIN1	–	H – Heater	CONNECTED
PIN2	A	P – Plate (Anode)	CONNECTED
PIN3	A	G2 – Screen Grid	CONNECTED
PIN4	A	G3 – Suppressor Grid	CONNECTED
PIN5	A	K – Cathode	CONNECTED
PIN6	A	G1 – Control Grid	CONNECTED
PIN7	B	P – Plate (Anode)	CONNECTED
PIN8	B	G3 – Suppressor Grid	CONNECTED
PIN9	B	G2 – Screen Grid	CONNECTED
PIN10	B	K – Cathode	CONNECTED
PIN11	B	G1 – Control Grid	CONNECTED
PIN12	–	H – Heater	CONNECTED

SECTION RATINGS

SECTION1 Pentode	
PLATE RESISTANCE	220000 Ω
TRANSCONDUCTANCE	0.0088 S
MAXIMUM PLATE VOLTAGE	160 V
MAXIMUM SCREEN VOLTAGE	160 V
MAXIMUM PLATE DISSIPATION	2.2 W
MAXIMUM SCREEN DISSIPATION	0.55 W
<i>Semiremote-cutoff Section 1.</i>	

SECTION2 Pentode	
PLATE RESISTANCE	300000 Ω
TRANSCONDUCTANCE	0.0085 S
MAXIMUM PLATE VOLTAGE	160 V
MAXIMUM SCREEN VOLTAGE	160 V
MAXIMUM PLATE DISSIPATION	2.2 W
MAXIMUM SCREEN DISSIPATION	0.55 W
<i>Sharp-cutoff Section 2.</i>	

Dissimilar dual-pentode television IF amplifier with a semiremote-cutoff first unit and sharp-cutoff second unit.



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 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Characteristics and Ratings (1g1 to 2p) maximum	0.001 pF	GENERAL
Heater Voltage AC or DC	8.4 V	GENERAL
Heater Warm-up Time average 11 Seconds (2g1 to 1p) maximum	0.1 pF	GENERAL
Grid-Number 1 to Plate (1g1 to 1lp) 0 016 pf (1g1 to 2g1) maximum 0	1 pF	Direct Interelectrode Capacitances Grid-Number 1 (Section 1)
Output 1p to (h + 1k + 1g2 + maximum	0.002 pF	Direct Interelectrode Capacitances Grid-Number 1 (Section 1)
Grid-Number 1 to Plate (2g1 to 2p)	0.015 pF	MECHANICAL
2 g3 + 1g3 + i 8)	2.6 pF	MECHANICAL
Plate Voltage + + o	160 V	MAXIMUM RATINGS
Screen Voltage e e e e e e e	160 V	MAXIMUM RATINGS
Screen Dissipation 0	55 W	MAXIMUM RATINGS
Total DC and Peak e+	200 V	MAXIMUM RATINGS
Total DC and Peak	200 V	MAXIMUM RATINGS
Plate Voltage + o o o	160 V	MAXIMUM RATINGS
Suppressor Voltage + + + e e e	0 V	MAXIMUM RATINGS
Screen Voltage e e e e e	160 V	MAXIMUM RATINGS
Positive DC Grid- Number 1 Voltage e e e e e e e e e e e e e	0 V	MAXIMUM RATINGS

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Dissipation e e e e e e e e e	202 W	MAXIMUM RATINGS
Screen Dissipation o e e e e e e e	0.55 W	MAXIMUM RATINGS
DC Component + + +	100 V	MAXIMUM RATINGS
With Cathode Bias	0.25 MOhm	MAXIMUM RATINGS
Plate Voltage + + o + o e 4 4 4 e e e	125 V	CHARACTERISTICS AND TYPICAL OPERATION (Cont d)
Cathode-Bias Resistor + + + + 4	120 Ohm	CHARACTERISTICS AND TYPICAL OPERATION (Cont d)
Plate Resistance approximate + +	300000 Ohm	CHARACTERISTICS AND TYPICAL OPERATION (Cont d)
Transconductance + o o e e e s s e s e e s e e	8500 uS	CHARACTERISTICS AND TYPICAL OPERATION (Cont d)
Plate Current + o o o o s s e e e e w4 e e e 4 e	9 mA	CHARACTERISTICS AND TYPICAL OPERATION (Cont d)
Screen Current + o+ s e e 4 e e e s 4 e e e e e	2.5 mA	CHARACTERISTICS AND TYPICAL OPERATION (Cont d)
Ib 20 Microamperes + + e e e e e e e e	-5.5 V	CHARACTERISTICS AND TYPICAL OPERATION (Cont d)
Heater voltage for a bogey tube at If	450 mA	CHARACTERISTICS AND TYPICAL OPERATION (Cont d)
The time required for the voltage across the heater to reach	80 %	CHARACTERISTICS AND TYPICAL OPERATION (Cont d)
24 Ip 8 Ecl 0 VOLT SI E p	125 V	CHARACTERISTICS AND TYPICAL OPERATION (Cont d)
L 12 el e	0 V	CHARACTERISTICS AND TYPICAL OPERATION (Cont d)
Ee3	0 V	CHARACTERISTICS AND TYPICAL OPERATION (Cont d)
Ec3	0 V	CHARACTERISTICS AND TYPICAL OPERATION (Cont d)
/b Ecy	0 V	CHARACTERISTICS AND TYPICAL OPERATION (Cont d)
24 Ecz	125 V	CHARACTERISTICS AND TYPICAL OPERATION (Cont d)
PlateVoltageTypical	125 V	Section1
ScreenVoltageTypical	125 V	Section1

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage e e e e e e e	125 V	AVERAGE CHARACTERISTICS
Screen Voltage e e e e s e e e e e s	125 V	AVERAGE CHARACTERISTICS
Plate Resistance approximate e v e e e e	220000 Ohm	AVERAGE CHARACTERISTICS
Transconductance + + + o e e e e e e	8800 uS	AVERAGE CHARACTERISTICS
Gm 50 Micromhos	-16.5 V	AVERAGE CHARACTERISTICS
PlateCurrentTypical	14 mA	Section1
ScreenCurrentTypical	3.6 mA	Section1

1968 GENERAL ELECTRIC CO

Section 2 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
PlateVoltageTypical	125 V	Section2
ScreenVoltageTypical	125 V	Section2

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
PlateCurrentTypical	9 mA	Section2
ScreenCurrentTypical	2.5 mA	Section2



SOURCE DATA APPENDIX

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 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage 160	160 V	Published in approved 8BM11 target datasheet entry; Section1
Grid-No.3 (Suppressor-Grid) Voltage 0	0 V	Published in approved 8BM11 target datasheet entry; Section1
Grid-No.2 (Screen-Grid) Voltage 100	160 V	Published in approved 8BM11 target datasheet entry; Section1
Grid-No. 1 (Control-Grid) Voltage, Positive-bias value 0	0 V	Published in approved 8BM11 target datasheet entry; Section1
Plate Dissipation 2.2	2.2 W	Published in approved 8BM11 target datasheet entry; Section1
Grid-No.2 Input 0.55	0.55 W	Published in approved 8BM11 target datasheet entry; Section1
Plate Supply Voltage 125	125 V	Published in approved 8BM11 target datasheet entry; Section1
Grid-No.2 Voltage 125	125 V	Published in approved 8BM11 target datasheet entry; Section1
Cathode-Bias Resistor 56	120 Ω	Published in approved 8BM11 target datasheet entry; Section1
Plate Resistance (Approx.) 220000	300000 Ω	Published in approved 8BM11 target datasheet entry; Section1
operation 1	0.25 MΩ	Published in approved 8BM11 target datasheet entry; Section1

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconductance 8800	8500 μS	Published in approved 8BM11 target datasheet entry; Section1
Plate Current 1'l	9 mA	Published in approved 8BM11 target datasheet entry; Section1
Grid-No.2 Current 3.6	2.5 mA	Published in approved 8BM11 target datasheet entry; Section1
20 tiA	-5.5 V	Published in approved 8BM11 target datasheet entry; Section1
50 jumho	-16.5 V	Published in approved 8BM11 target datasheet entry; Section1

1975 RCA RC30

Section 2 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage 160	160 V	Published in approved 8BM11 target datasheet entry; Section2
Grid-No.3 (Suppressor-Grid) Voltage 0	0 V	Published in approved 8BM11 target datasheet entry; Section2
Grid-No.2 (Screen-Grid) Voltage 100	160 V	Published in approved 8BM11 target datasheet entry; Section2
Grid-No. 1 (Control-Grid) Voltage, Positive-bias value 0	0 V	Published in approved 8BM11 target datasheet entry; Section2
Plate Dissipation 2.2	2.2 W	Published in approved 8BM11 target datasheet entry; Section2
Grid-No.2 Input 0.55	0.55 W	Published in approved 8BM11 target datasheet entry; Section2
Plate Supply Voltage 125	125 V	Published in approved 8BM11 target datasheet entry; Section2
Grid-No.2 Voltage 125	125 V	Published in approved 8BM11 target datasheet entry; Section2
Cathode-Bias Resistor 56	120 Ω	Published in approved 8BM11 target datasheet entry; Section2
Plate Resistance (Approx.) 220000	300000 Ω	Published in approved 8BM11 target datasheet entry; Section2
operation 1	0.25 MΩ	Published in approved 8BM11 target datasheet entry; Section2

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconductance 8800	8500 μS	Published in approved 8BM11 target datasheet entry; Section2
Plate Current 1'l	9 mA	Published in approved 8BM11 target datasheet entry; Section2
Grid-No.2 Current 3.6	2.5 mA	Published in approved 8BM11 target datasheet entry; Section2
20 tiA	-5.5 V	Published in approved 8BM11 target datasheet entry; Section2
50 jumho	-16.5 V	Published in approved 8BM11 target datasheet entry; Section2



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