

ELECTRONIC TUBE REFERENCE

6FS5

Power - Beam Single (NOT sweep) (under 10W) electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION
CONSTRUCTION
BEAMPOWER

Shadow-grid beam device designed as an RF amplifier in VHF television receivers, optimized for high-frequency front-end gain.

GENERAL CHARACTERISTICS

BASE DESIGNATION	7GA	BASE PINS	9
NOMINAL HEATER	6.3 V / 200 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

7GA - TERMINAL PINOUT

TERMINAL	SECTION	ELEMENT	STATUS
PIN1 – G1	A	G1 – Control Grid	CONNECTED
PIN2 – G2	A	G2 – Screen Grid	CONNECTED
PIN2 – G4	A	G4 – Fourth Grid	CONNECTED
PIN2 – K	A	K – Cathode	CONNECTED
PIN3 – H	–	H – Heater	CONNECTED
PIN4 – H	–	H – Heater	CONNECTED
PIN5 – P	A	P – Plate (Anode)	CONNECTED
PIN6 – G3	A	G3 – Suppressor Grid	CONNECTED
PIN7 – G2	A	G2 – Screen Grid	CONNECTED
PIN7 – G4	A	G4 – Fourth Grid	CONNECTED
PIN7 – K	A	K – Cathode	CONNECTED

SECTION RATINGS

SECTION1 Beam Power	
PLATE RESISTANCE	240000 Ω
TRANSCONDUCTANCE	0.01 S
MAXIMUM PLATE VOLTAGE	300 V
MAXIMUM SCREEN VOLTAGE	150 V
MAXIMUM PLATE DISSIPATION	3.25 W
MAXIMUM SCREEN DISSIPATION	0.15 W
MAXIMUM CATHODE CURRENT	20 mA
Beam hexode. SectionType Other is used because the locked SectionType vocabulary has no Hexode value.	

Beam hexode used as an RF amplifier in VHF television receivers.



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 · Beam Power

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Typical Plate Voltage	275 V	—
Typical Screen Voltage	135 V	—

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Typical Plate Current	9 mA	—
Typical Screen Current	0.17 mA	—



SOURCE OPERATING CONDITIONS

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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 · Beam Power

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage nominal	6.3 V	—
Heater voltage tolerance	0.6 V	±
Heater current	200 mA	HeaterVoltage=6.3V
Peak heater-cathode voltage, heater negative	200 V	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak heater-cathode voltage, heater positive	200 V	DCComponent<=100V
Maximum plate voltage	300 V	ClassA1
Maximum grid No.3 voltage	150 V	ClassA1
Maximum negative grid No.1 bias magnitude	50 V	ClassA1
Maximum positive grid No.1 voltage	0 V	ClassA1
Maximum cathode current	20 mA	ClassA1
Maximum grid No.3 input	0.15 W	ClassA1
Maximum plate dissipation	3.25 W	ClassA1
Maximum grid No.1 circuit resistance	0.5 MΩ	ClassA1;FixedBias

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid No.1-to-plate capacitance	0.03 pF	WithoutExternalShield
Grid No.1-to-plate capacitance	0.016 pF	WithExternalShield
Grid No.1 input capacitance	4.8 pF	WithoutExternalShield
Grid No.1 input capacitance	4.8 pF	WithExternalShield
Plate output capacitance	2 pF	WithoutExternalShield
Plate output capacitance	2.8 pF	WithExternalShield

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	275 V	ClassA1
Grid No.3 voltage	135 V	ClassA1
Grid No.1 voltage	-0.2 V	ClassA1
Plate resistance	0.24 MΩ	ClassA1
Transconductance	10000 μS	ClassA1
Plate current	9 mA	ClassA1
Grid No.3 current	0.17 mA	ClassA1
Grid No.1 voltage for transconductance 100 μS	-5 V	ClassA1

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 · Beam Power

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage (ac/dc) 2.4 2.9	6.3 V	Published in approved 6FS5 target entry; Section1
Heater Current 0.6 0.45	200 mA	Published in approved 6FS5 target entry; Section1
Heater Warm-up Time (Average) 11	11 seconds	Published in approved 6FS5 target entry; Section1
Plate Voltage	300 V	Published in approved 6FS5 target entry; Section1
Grid-No.3 (Screen-Grid) Voltage	150 V	Published in approved 6FS5 target entry; Section1
Negative-bias value	60 V	Published in approved 6FS5 target entry; Section1
Positive-bias value	0 V	Published in approved 6FS5 target entry; Section1
Cathode Current	20 mA	Published in approved 6FS5 target entry; Section1
Plate Dissipation	3.25 W	Published in approved 6FS5 target entry; Section1
Grid-No.3 Input	0.16 W	Published in approved 6FS5 target entry; Section1
Plate Voltage	275 V	Published in approved 6FS5 target entry; Section1
Grid-No.3 Voltage	135 V	Published in approved 6FS5 target entry; Section1
Grid-No.1 Voltage	-0.2 V	Published in approved 6FS5 target entry; Section1

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-No.1-Circuit Resistance, for fixed-bias operation	0.5 MΩ	Published in approved 6FS5 target entry; Section1

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid No.1 to Plate 0.03	0.016 pF	Published in approved 6FS5 target entry; Section1
No.3, and Grid No.4	4.8 pF	Published in approved 6FS5 target entry; Section1
and Grid No	4 pF	Published in approved 6FS5 target entry; Section1

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Resistance (Approx.)	0.24 MΩ	Published in approved 6FS5 target entry; Section1
Transconductance	10000 μS	Published in approved 6FS5 target entry; Section1
Plate Current	9 mA	Published in approved 6FS5 target entry; Section1
Grid-No.3 Current	0.17 mA	Published in approved 6FS5 target entry; Section1
Grid-No.1 Voltage (Approx.) for transconductance of	100 μS	Published in approved 6FS5 target entry; Section1
Grid-No.1 Voltage (Approx.) for transconductance of 100 /imhos	-5 V	Published in approved 6FS5 target entry; Section1