

ELECTRONIC TUBE REFERENCE

6GE5

Power - TV Horizontal Output (sweep) electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION
CONSTRUCTION
BEAMPOWER

Compactron beam-power tube designed as a horizontal-deflection amplifier in television receivers.

GENERAL CHARACTERISTICS

BASE DESIGNATION	12BJ	BASE PINS	12
NOMINAL HEATER	6.3 V / 1.2 A	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

12BJ - TERMINAL PINOUT

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

SECTION RATINGS

SECTION1 Beam Power	
PLATE RESISTANCE	18000 Ω
TRANSCONDUCTANCE	0.0073 S
AMPLIFICATION FACTOR	4.4
MAXIMUM PLATE VOLTAGE	770 V
MAXIMUM SCREEN VOLTAGE	220 V
MAXIMUM PLATE DISSIPATION	17.5 W
MAXIMUM SCREEN DISSIPATION	3.5 W
MAXIMUM CATHODE CURRENT	175 mA
6500 V positive pulse plate rating preserved as parameter.	

Duodecar beam-power tube used as a horizontal-deflection amplifier in television receivers.



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1961 Tung Sol

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

1961 TUNG SOL

Section 1 · Beam Power

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	6.3 V	—
Heater current	1.2 A	—
Plate voltage	6500 V	Typical operating conditions
Screen voltage	220 V	Typical operating conditions



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1966 Tung Sol Electronic Tubes 2 of 4

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

1966 TUNG SOL ELECTRONIC TUBES 2 OF 4

Section 1 · Beam Power

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid #1-to-plate capacitance	0.3 pF	—
Input capacitance	16 pF	—
Output capacitance	7 pF	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak positive pulse plate voltage	6500 V	HorizontalDeflection

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak negative pulse plate voltage	-1500 V	HorizontalDeflection
Peak cathode current	550 mA	HorizontalDeflection
Plate voltage	250 V	AverageCharacteristics
Screen voltage	150 V	AverageCharacteristics
Grid #1 voltage	-22.5 V	AverageCharacteristics
Plate current	65 mA	AverageCharacteristics
Screen current	1.8 mA	AverageCharacteristics

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Triode-connected amplification factor	4.4	TriodeConnection



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
Peak Positive Pulse Plate Voltage	6500 V	TVHorizontalDeflection
Peak Negative Pulse Plate Voltage	1500 V	TVHorizontalDeflection
Typical Plate Voltage	250 V	—
Typical Screen Voltage	150 V	—



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 · Beam Power

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	6.3 V	—
Heater current	1.2 A	—
DC plate-supply voltage	770 V	HorizontalDeflection
Peak positive-pulse plate voltage	6500 V	HorizontalDeflection
DC screen voltage	220 V	HorizontalDeflection
Average cathode current	175 mA	HorizontalDeflection
Plate dissipation	17.5 W	HorizontalDeflection

APPLICATION		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Application	Television horizontal-deflection amplifier	—

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	250 V	ClassA
Screen voltage	150 V	ClassA
Plate current	70 mA	ClassA
Transconductance	7100 μ S	ClassA
Plate resistance	15000 ohm	ClassA

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-to-plate capacitance	0.26 pF	—



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 · Beam Power

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Load Resistance 2000	4000 Ω	Published in approved 17GE5 target datasheet entry; Section1
Total Harmonic Distortion 10	10 %	Published in approved 17GE5 target datasheet entry; Section1
Maximum-Signal Power Output 2.1	3.8 W	Published in approved 17GE5 target datasheet entry; Section1
For fixed -bias operation	0.1 MΩ	Published in approved 17GE5 target datasheet entry; Section1
For cathode-bias operation	0.5 MΩ	Published in approved 17GE5 target datasheet entry; Section1
Heater Voltage (ac/dc) 6.3 12.6	16.8 V	Published in approved 17GE5 target datasheet entry; Section1
Heater Current 1.2 0.6	450 mA	Published in approved 17GE5 target datasheet entry; Section1
Heater Warm-up Time (Average) – 11	11 seconds	Published in approved 17GE5 target datasheet entry; Section1
DC Plate Supply Voltage	770 V	Published in approved 17GE5 target datasheet entry; Section1
Peak Positive-Pulse Plate Voltage*	6500 V	Published in approved 17GE5 target datasheet entry; Section1
Peak Negative-Pulse Plate Voltage	1500 V	Published in approved 17GE5 target datasheet entry; Section1
DC Grid-No.2 Voltage	220 V	Published in approved 17GE5 target datasheet entry; Section1
Peak Negative-Pulse Grid-No.1 Voltage	330 V	Published in approved 17GE5 target datasheet entry; Section1
3	-6 W	Published in approved 17GE5 target datasheet entry; Section1
Grid-No.1 Circuit Resistance	1 MΩ	Published in approved 17GE5 target datasheet entry; Section1

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
# Pulse duration must not exceed 15% of a horizontal scanning cycle (	10 microseconds	Published in approved 17GE5 target datasheet entry; Section1
Heater Voltage (ac/dc) 6.3 9.7	13 V	Published in approved 17GE5 target datasheet entry; Section1
Heater Current 0.985 0.6	450 mA	Published in approved 17GE5 target datasheet entry; Section1

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage 60 250	150 V	Published in approved 17GE5 target datasheet entry; Section1
Grid-No.2 (Screen-Grid) Voltage 150 150	150 V	Published in approved 17GE5 target datasheet entry; Section1
Grid-No.1 (Control-Grid) Voltage 0	-22.5 V	Published in approved 17GE5 target datasheet entry; Section1
Plate Resistance (Approx.)	18000 Ω	Published in approved 17GE5 target datasheet entry; Section1
Transconductance	7300 μS	Published in approved 17GE5 target datasheet entry; Section1
Plate Current 345*	65 mA	Published in approved 17GE5 target datasheet entry; Section1
Grid-No.2 Current 27 •	1.8 mA	Published in approved 17GE5 target datasheet entry; Section1
of	1 mA	Published in approved 17GE5 target datasheet entry; Section1
of 1 mA	-42 V	Published in approved 17GE5 target datasheet entry; Section1
Grid to Plate 4.6	9 pF	Published in approved 17GE5 target datasheet entry; Section1
Plate Voltage 250	150 V	Published in approved 17GE5 target datasheet entry; Section1
Grid Voltage -3	-20 V	Published in approved 17GE5 target datasheet entry; Section1
Plate Resistance (Approx.) 40000	760 Ω	Published in approved 17GE5 target datasheet entry; Section1
Transconductance 1600	7200 μS	Published in approved 17GE5 target datasheet entry; Section1
For plate current of 100 /lA -	-45 V	Published in approved 17GE5 target datasheet entry; Section1

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
For plate voltage of	60 V	Published in approved 17GE5 target datasheet entry; Section1
For plate voltage of 60 volts and zero grid voltage	95 mA	Published in approved 17GE5 target datasheet entry; Section1
For grid voltage of	28 V	Published in approved 17GE5 target datasheet entry; Section1

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid to Cathode and Heater 2.4	6.5 pF	Published in approved 17GE5 target datasheet entry; Section1
Plate to Cathode and Heater 0.26	1.4 pF	Published in approved 17GE5 target datasheet entry; Section1

TUBE TINKER

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