

BEAM POWER TUBE

6GC5

Neonval type used in color and black-and-white television receiver applications and as output tube in audio-amplifier applications. Outlines section, 10D; requires neonval 9-contact socket.

Heater Voltage (ac/dc)	6.3	volts
Heater Current	1.2	amperes
Heater-Cathode Voltage:		
Peak value	±200 max	volts
Average value	100 max	volts
Direct Interelectrode Capacitances (Approx.):		
Grid No.1 to Plate	0.9	pF
Grid No.1 to Cathode, Heater, Grid No.2, and Grid No.3	18	pF
Plate to Cathode, Heater, Grid No.2, and Grid No.3	7	pF

Class A₁ Amplifier

MAXIMUM RATINGS (Design-Maximum Values)

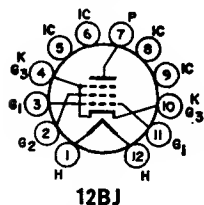
Plate Voltage	220	volts
Grid-No.2 (Screen-Grid) Voltage	140	volts
Plate Dissipation	12	watts
Grid-No.2 Input	1.4	watts

TYPICAL OPERATION AND CHARACTERISTICS

Plate Voltage	110	200	volts
Grid-No.2 Voltage	110	125	volts
Grid-No.1 Voltage	—7.5	—	volts
Cathode-Bias Resistor	—	180	ohms
Peak AF Grid-No.1 Voltage	7.5	8.5	volts
Zero-Signal Plate Current	49	46	mA
Maximum-Signal Plate Current	50	47	mA
Zero-Signal Grid-No.2 Current	4	2.2	mA
Maximum-Signal Grid-No.2 Current	10	8.5	mA
Plate Resistance (Approx.)	13000	28000	ohms
Transconductance	8000	8000	μmhos
Load Resistance	2000	4000	ohms
Total Harmonic Distortion	10	10	per cent
Maximum-Signal Power Output	2.1	3.8	watts

MAXIMUM CIRCUIT VALUES

Grid-No.1-Circuit Resistance:		
For fixed-bias operation	0.1	megohm
For cathode-bias operation	0.5	megohm



BEAM POWER TUBE

6GE5

12GE5, 17GE5

Duodecator type used as horizontal-deflection-amplifier tube in television receivers. Outlines section, 15A; requires duodecator 12-contact socket. Types 12GE5 and 17GE5 are identical with type 6GE5 except for heater ratings.

	6GE5	12GE5	17GE5	
Heater Voltage (ac/dc)	6.3	12.6	16.8	volts
Heater Current	1.2	0.6	0.45	amperes
Heater Warm-up Time (Average)	—	11	11	seconds
Heater-Cathode Voltage:				
Peak value	±200 max	±200 max	±200 max	volts
Average value	100 max	100 max	100 max	volts

Class A₁ Amplifier

CHARACTERISTICS

	Pentode Connection	Triode* Connection	
Plate Voltage	60	250	volts
Grid-No.2 (Screen-Grid) Voltage	150	150	volts
Grid-No.1 (Control-Grid) Voltage	0	—22.5	volts
Amplification Factor	—	4.4	
Plate Resistance (Approx.)	—	18000	ohms
Transconductance	—	7300	μmhos
Plate Current	345*	65	mA

	Pentode Connection	Triode* Connection	
Grid-No.2 Current	27*	1.8	mA
Grid-No.1 Voltage (Approx.) for plate current of 1 mA	—	—42	volts

* Grid No.2 tied to plate.

• This value can be measured by a method involving a recurrent waveform such that the maximum ratings of the tube will not be exceeded.

Horizontal-Deflection Amplifier

For operation in a 525-line, 30-frame system

MAXIMUM RATINGS (Design-Maximum Values)

DC Plate Supply Voltage	770	volts
Peak Positive-Pulse Plate Voltage#	6500	volts
Peak Negative-Pulse Plate Voltage	1500	volts
DC Grid-No.2 Voltage	220	volts
Peak Negative-Pulse Grid-No.1 Voltage	330	volts
DC Grid-No.1 Voltage	—55	volts
Peak Cathode Current	550	mA
Average Cathode Current	175	mA
Plate Dissipation†	17.5	watts
Grid-No.2 Input	3.5	watts
Bulb Temperature (At hottest point)	200	°C

MAXIMUM CIRCUIT VALUE

Grid-No.1 Circuit Resistance	1	megohm
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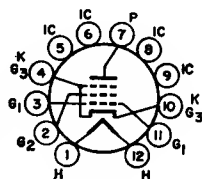
Pulse duration must not exceed 15% of a horizontal scanning cycle (10 microseconds).

† A bias resistor or other means is required to protect the tube in absence of excitation.

6GF5

BEAM POWER TUBE

Duodecar type used as horizontal-deflection amplifier in television receivers. Outlines section, 8D; requires duodecar 12-contact socket. Heater: volts (ac/dc), 6.3; amperes, 1.2; maximum heater-cathode volts, ± 200 peak, 100 average.



12BJ

Class A₁ Amplifier

CHARACTERISTICS

	Pentode Connection	Triode* Connection	
Plate Voltage	60	250	volts
Grid-No.2 (Screen-Grid) Voltage	150	150	volts
Grid-No.1 (Control-Grid) Voltage	0	—26.5	volts
Amplification Factor	—	4.2	—
Plate Resistance (Approx.)	—	0.26	megohm
Transconductance	—	4700	μmhos
Plate Current	345*	34	mA
Grid-No.2 Current	33*	1.6	mA
Grid-No.1 Voltage (Approx.) for plate current of 1 mA	—	—46	volts

* Grid No.2 connected to plate.

• These values can be measured by a method involving a recurrent waveform such that the maximum ratings of the tube will not be exceeded.

Horizontal-Deflection Amplifier

For operation in a 525-line, 30-frame system

MAXIMUM RATINGS (Design-Maximum Values)

DC Plate Supply Voltage	770	volts
Peak Positive-Pulse Plate Voltage#	5000	volts
Peak Negative-Pulse Plate Voltage	1500	volts
DC Grid-No.2 Voltage	220	volts
Peak Negative-Pulse Grid-No.1 Voltage	330	volts
Negative DC Grid-No.1 Voltage	—55	volts
Peak Cathode Current	500	mA
Average Cathode Current	160	mA
Plate Dissipation†	9	watts