

Refer to chart at end of section.

27

Refer to type 6GB5/EL500.

27GB5/PL500

Refer to chart at end of section.

30

Refer to type 6AG11.

30AG11

Refer to chart at end of section.

31

Refer to type 6JS6A.

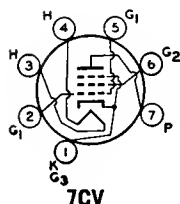
31JS6A

Refer to chart at end of section.

32

Refer to chart at end of section.

32ET5



POWER PENTODE

32ET5A

Miniature type used in audio output stage of compact ac/dc radio receivers, Outlines section, 5D; requires miniature 7-contact socket. Heater: volts (ac/dc), 32; amperes, 0.1; warm-up time (average), 20 seconds; maximum heater-cathode volts, ± 200 peak, 100 average.

Class A₁ Amplifier

MAXIMUM RATINGS (Design-Maximum Values)

Plate Voltage	150	volts
Grid-No.2 (Screen-Grid) Voltage	130	volts
Plate Dissipation	5.4	watts
Grid-No.2 Input	1.2	watts

TYPICAL OPERATION AND CHARACTERISTICS

Plate Voltage	110	volts
Grid-No.2 Voltage	110	volts
Grid-No.1 (Control-Grid) Voltage	-7.5	volts
Peak AF Grid-No.1 Voltage	7.5	volts
Zero-Signal Plate Current	30	mA
Zero-Signal Grid-No.2 Current	2.8	mA
Plate Resistance (Approx.)	21500	ohms
Transconductance	5500	μ mhos
Load Resistance	2800	ohms
Total Harmonic Distortion	10	per cent
Maximum-Signal Power Output	1.2	watts

MAXIMUM CIRCUIT VALUES

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

Refer to chart at end of section.

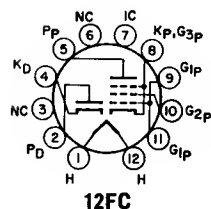
32L7GT

Refer to chart at end of section.

33

DIODE—BEAM POWER TUBE

33GT7



Duodecar type used in television receiver applications. The diode unit is used for damper service and the beam power unit for horizontal-deflection amplifier service. Outlines section, 15A; requires duodecar 12-contact socket. Heater: volts (ac/dc), 33.6; amperes, 0.45; warm-up time, 11 seconds; maximum heater-cathode volts, ± 200 peak, 100 average.

Beam Power Unit as Class A₁ Amplifier

CHARACTERISTICS

	Pentode Connection			Triode† Connection	
Plate Voltage	3500	60	130	130	volts
Grid-No.2 (Screen-Grid) Voltage	130	130	130	130	volts
Grid-No.1 (Control-Grid) Voltage	—	0	-22.5	-22.5	volts
Amplification Factor	—	—	—	4	
Plate Resistance (Approx.)	—	—	10000	—	ohms
Transconductance	—	—	6500	—	μmhos
Plate Current	—	320	48	—	mA
Grid-No.2 Current	—	22	2.9	—	mA
Grid-No.1 Voltage (Approx.) for plate current of 1 mA	-60	—	-40	—	volts

† Grid No.2 tied to plate.

Beam Power Unit as Horizontal-Deflection Amplifier

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

MAXIMUM RATINGS (Design-Maximum Ratings)

Plate Voltage	400	volts
Peak Positive-Pulse Plate Voltage*	3500	volts
Peak Negative-Pulse Plate Voltage	0	volts
Grid-No.2 Voltage	150	volts
DC Grid-No.1 DC Voltage, Negative-bias value	55	volts
Peak Negative-Pulse Grid-No.1 Voltage	330	volts
Average Cathode Current	140	mA
Peak Cathode Current	490	mA
Plate Dissipation*	9	watts
Grid-No.2 Input	2.5	watts

MAXIMUM CIRCUIT VALUE

Grid-No.1-Circuit Resistance	1	megohm
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* A bias resistor or other means is required to protect the tube in absence of excitation.

Dampner Service—Diode Unit

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

MAXIMUM RATINGS (Design-Maximum Values)

Peak Inverse Plate Voltage#				2500	volts	
Peak Plate Current				750	mA	
Average Plate Current				125	mA	
Plate Dissipation				3.5	watts	
Heater-Cathode Voltage:						
Peak value				+200	—2500	volts
Average value				+100	—400	volts
Bulb Temperature (at hottest point)					220	°C

CHARACTERISTICS, Instantaneous Value

Tube Voltage Drop for plate current of 250 mA	21	volts
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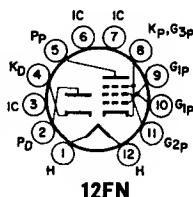
* Pulse duration must not exceed 15% of a horizontal scanning cycle (10 microseconds).

33GY7

Refer to chart at end of section.

33GY7A DIODE—BEAM POWER TUBE

Duodecar type used as combined dampner diode and horizontal-deflection amplifier in television receivers. Socket terminals 1, 3, 6 and 7 should not be used as tie points. Outlines section, 15A; requires duodecar 12-contact socket. Heater: volts (ac/dc), 33.6; amperes, 0.45; warm-up time (average), 11 seconds; maximum heater-cathode volts, ± 200 peak, 100 average.



12FN

Beam Power Unit as Class A₁ Amplifier

CHARACTERISTICS

	Pentode Connection			Triode* Connection	
Plate Voltage	5000	60	130	130	volts
Grid-No.2 (Screen-Grid) Voltage	130	130	130	130	volts
Grid-No.1 (Control-Grid) Voltage	—	0	-22.5	-22.5	volts
Amplification Factor	—	—	—	4	
Plate Resistance (Approx.)	—	—	10000	—	ohms
Transconductance	—	—	6500	—	μmhos