

Direct Interelectrode Capacitances:

Triode Unit:		
Grid to Plate	1.7	pF
Grid to Cathode, Heater, Pentode Grid No.3, and Internal Shield	2	pF
Plate to Cathode, Heater, Pentode Grid No.3, and Internal Shield	1.7	pF
Pentode Unit:		
Grid No.1 to Plate	0.02 max	pF
Grid No.1 to Cathode, Heater, Grid No.2, Grid No.3, and Internal Shield	6.5	pF
Plate to Cathode, Heater, Grid No.2, Grid No.3, and Internal Shield	2.2	pF
Triode Grid to Pentode Plate	0.027 max	pF
Pentode Grid No.1 to Triode Plate	0.020 max	pF
Pentode Plate to Triode Plate	0.045 max	pF

* The heater-cathode voltage of the pentode unit should not exceed the value of the operating cathode bias. Grid No.3 will be made negative with respect to cathode if this value is exceeded, and thus possibly cause a change in tube characteristics.

Class A₁ Amplifier

MAXIMUM RATINGS (Design-Center Values)

	Triode Unit	Pentode Unit	
Plate Voltage	300	300	volts
Grid-No.2 (Screen-Grid) Supply Voltage	—	300	volts
Grid-No.2 Voltage	See curve page 98		
Grid-No.1 (Control-Grid) Voltage, Positive-bias value	0	0	volts
Plate Dissipation	2.6	2	watts
Grid-No.2 Input:			
For grid-No.2 voltages up to 150 volts	—	0.5	watt
For grid-No.2 voltages between 150 and 300 volts	See curve page 98		

CHARACTERISTICS

Plate Supply Voltage	200	200	volts
Grid-No.2 Voltage	—	150	volts
Grid-No.1 Voltage	—6	—	volts
Cathode-Bias Resistor	—	180	ohms
Amplification Factor	19	—	
Plate Resistance (Approx.)	5750	30000	ohms
Transconductance	3300	6000	μmhos
Plate Current	13	9.5	mA
Grid-No.2 Current	—	3	mA
Grid-No.1 Voltage (Approx.) for plate current of 10 μA	—19	—	volts
Grid-No.1 Voltage (Approx.) for transconductance of 100 μmhos	—	—12.5	volts

MAXIMUM CIRCUIT VALUES

Grid-No.1-Circuit Resistance:*			
For fixed-bias operation	0.5	0.25	megohm
For cathode-bias operation	1	1	megohm

* If either unit is operating at maximum rated conditions, grid-No.1-circuit resistance for both units should not exceed the stated values.

6B4G Refer to chart at end of section.

6B5 Refer to chart at end of section.

6B6G Refer to chart at end of section.

6B7 Refer to chart at end of section.

6B7S

6B8 Refer to chart at end of section.

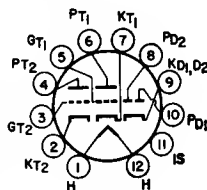
6B8G Refer to chart at end of section.

6B10

8B10

**TWIN DIODE—
MEDIUM-MU TWIN TRIODE**

Duodecar type used in television receiver applications; diode units are used in horizontal-phase-detector circuits, and triode units are used in horizontal-oscillator circuits. Outlines section, 8A; requires duodecar 12-contact socket. Type 8B10 is identical with type 6B10 except for heater ratings.



12BF

Heater Voltage (ac/dc)	6B10 6.3	8B10 8.5	volts
Heater Current	0.6	0.45	ampere
Heater Warm-up Time (Average)	11	11	seconds
Heater-Cathode Voltage:			
Peak value	±200 max	±200 max	volts
Average value	100 max	100 max	volts

Class A₁ Amplifier (Each Triode Unit)

MAXIMUM RATING (Design-Maximum Value)

Plate Voltage	330	volts
Average Cathode Current	20	mA
Plate Dissipation	3	watts

CHARACTERISTICS

Plate Voltage	250	volts
Grid Voltage	—8	volts
Amplification Factor	18	
Plate Resistance (Approx.)	7200	ohms
Transconductance	2500	μmhos
Plate Current	10	mA
Grid Voltage (Approx.) for plate current of 50 μA	—20	volts

MAXIMUM CIRCUIT VALUES

Grid-Circuit Resistance:		
For fixed-bias operation	0.25	megohm
For cathode-bias operation	1	megohm

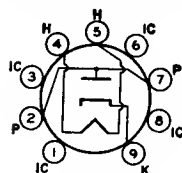
Diode Units (Each Unit)

MAXIMUM RATING (Design-Maximum Value)

Plate Current	5	mA
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CHARACTERISTICS, Instantaneous Value

Tube Voltage Drop for plate current of 20 mA	5	volts
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9HP

HALF-WAVE VACUUM RECTIFIER

6BA3

Novar type used as damper tube in horizontal-deflection circuits of black-and-white television receivers. Outlines section, 11B or 30C; requires novar 9-contact socket. Socket terminals 1, 3, 6, and 8 should not be used as tie points. This tube, like other power-handling tubes, should be adequately ventilated.

Heater Voltage (ac/dc)	6.3	volts
Heater Current		
Direct Interelectrode Capacitances (Approx.):	4.4	pF
Plate to Cathode and Heater	6	pF
Cathode to Plate and Heater	1.8	pF
Heater to Cathode	1.2	ampere

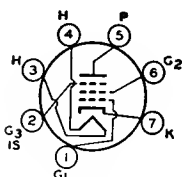
Damper Service

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

MAXIMUM RATINGS (Design-Maximum Values)

Peak Inverse Plate Voltage#	5000	volts
Peak Plate Current	1000	mA
Average Plate Current	165	mA
Plate Dissipation	5.3	watts
Heater-Cathode Voltage:		
Peak value	+300 —5000	volts
Average value	+100 —900	volts

Pulse duration must not exceed 15% of a horizontal scanning cycle (10 microseconds).



7BK

REMOTE-CUTOFF PENTODE

6BA6 6BA6/EF93

12BA6

Miniature types used as rf amplifiers in standard broadcast and FM receivers, as well as in wide-band, high-