

Voltage Regulation (Approx.):

Half-load to full-load current 20 15 volts

* Higher values of capacitance than indicated may be used but the effective plate-supply impedance may have to be increased to prevent exceeding the maximum rating for hot-switching transient plate current.

This value is adequate to maintain optimum regulation provided the load current is not less than 30 mA. For load currents less than 30 mA, a larger value of inductance is required for optimum regulation.

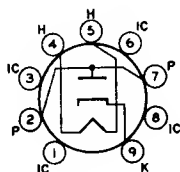
This value is adequate to maintain optimum regulation provided the load current is not less than 35 mA. For load currents less than 35 mA, a larger value of inductance is required for optimum regulation.

Refer to chart at end of section.

6AX8

Refer to chart at end of section.

6AY3



9HP

Socket terminals 1, 3, 6, and 8 should not be used as tie points. It is especially important that these tubes, like other power-handling tubes, be adequately ventilated. Types 12AY3A and 17AY3A are identical with type 6AY3B except for heater ratings.

HALF-WAVE VACUUM RECTIFIER

6AY3B

12AY3A, 17AY3A

Novar type used as damper tube in horizontal-deflection circuits of black-and-white television receivers.

Outlines section, 30B; requires novar 9-contact socket.

	6AY3B	12AY3A	17AY3A	
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
Direct Interelectrode Capacitances (Approx.):				
Plate to Cathode and Heater			6.5	pF
Cathode to Plate and Heater			9	pF
Heater to Cathode			2.8	pF

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	1100	mA
Average Plate Current	175	mA
Plate Dissipation	6.5	watts
Heater-Cathode Voltage:		
Peak value	+800	volts
Average value	+100	volts

CHARACTERISTIC, Instantaneous Value

Tube Voltage Drop for plate current of 350 mA 32 volts

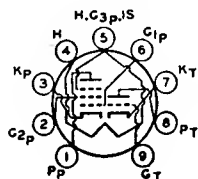
Pulse duration must not exceed 15% of a horizontal scanning cycle (10 microseconds).

Refer to chart at end of section.

6AY11

MEDIUM-MU TRIODE— SHARP-CUTOFF PENTODE

6AZ8



9ED

Miniature type used in color and black-and-white television receiver applications. The pentode unit is used as an if amplifier, video amplifier, agc amplifier, or reactance tube. The triode unit is used in low-frequency oscillator, sync-separator, sync-clipper, and phase-splitter circuits. Outlines section, 6B; requires miniature 9-contact socket.

Heater Voltage (ac/dc)	6.3	volts
Heater Current	0.45	ampere
Heater-Cathode Voltage:*		
Peak value	±200 max	volts
Average value	100 max	volts

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 300	
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 300	

CHARACTERISTICS

	Triode Unit	Pentode Unit	
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	300000	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.

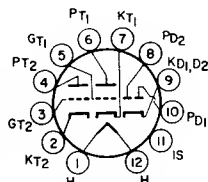
6B8G

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