**7BT**

TWIN DIODE— HIGH-MU TRIODE

6AT6**12AT6**

Miniature type used as a combined detector, amplifier, and avc tube in automobile and ac-operated radio receivers. Outlines section, 5C; requires miniature 7-contact socket. For typical operation as resistance-coupled amplifier refer to **Resistance-Coupled Amplifier** section. Type 12AT6 is identical with type 6AT6 except for heater ratings.

	6AT6	12AT6	
Heater Voltage (ac/dc)	6.3	12.6	volts
Heater Current	0.3	0.15	ampere
Peak Heater-Cathode Voltage	±90 max	±90 max	volts
Direct Interelectrode Capacitances:			
Triode Grid to Triode Plate		2	pF
Triode Grid to Cathode and Heater		2.2	pF
Triode Plate to Cathode and Heater		0.8	pF
Plate of Diode Unit No.2 to Triode Grid		0.04 max	pF

Triode Unit as Class A₁ Amplifier

MAXIMUM RATINGS (Design-Center Values)

Plate Voltage	300	volts
Plate Dissipation	0.5	watts
Grid Voltage, Positive-bias value	0	volts

CHARACTERISTICS

Plate Voltage	100	250	volts
Grid Voltage	—1	—3	volts
Amplification Factor	70	70	
Plate Resistance	54000	58000	ohms
Transconductance	1300	1200	μmhos
Plate Current	0.8	1	mA

Diode Units

MAXIMUM RATING (Design-Center Value)

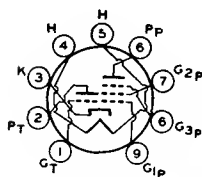
Plate Current (Each Unit)	1	mA
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The two diode plates are placed around a cathode whose sleeve is common to the triode unit. Each diode plate has its own base pin. For diode operation curves, refer to type 6AV6.

Refer to chart at end of section.

6AT8

MEDIUM-MU TRIODE— SHARP-CUTOFF PENTODE

6AT8A**5AT8****9DW**

Miniature types used as combined oscillator and mixer tubes in television receivers utilizing an intermediate frequency in the order of 40 MHz. Outlines section, 6B; requires miniature 9-contact socket. Except for interelectrode capacitances and basing arrangement, this type is identical with miniature type 6X8. The basing

arrangement is particularly suitable for connection to the coils of certain designs of turret tuners. Type 5AT8 is identical with type 6AT8A except for heater ratings.

	5AT8	6AT8A	
Heater Voltage (ac/dc)	4.7	6.3	volts
Heater Current	0.6	0.45	ampere
Heater Warm-up Time (Average)	11	11	seconds
Direct Interelectrode Capacitances:			
Triode Unit:			
Grid to Plate	1.5	1.5	pF
Grid to Cathode and Heater	2	2.4	pF
Plate to Cathode and Heater	0.5	1	pF
Pentode Unit:			
Grid No.1 to Plate	0.06 max	0.03 max	pF
Grid No.1 to Cathode, Heater, Grid No.2 and Grid No.3	4.6	4.8	pF
Plate to Cathode, Heater, Grid No.2, and Grid No.3	0.9	1.6	pF

Pentode Grid No.1 to Triode Plate	0.05 max	0.04 max	pF
Pentode Plate to Triode Plate	0.05 max	0.008 max	pF
Heater to Cathode	6	6†	pF

* With external shield connected to cathode except as noted.

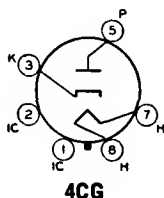
† With external shield connected to plate.

6AU4GT

Refer to chart at end of section.

6AU4GTA HALF-WAVE VACUUM RECTIFIER

Glass octal type used as damper tube in horizontal-deflection circuits of color and wide-angle picture-tube television receivers. Outlines section, 13G; requires octal socket. Type may be supplied with pin No. 1 omitted. Socket terminals 1, 2, 4, and 6 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	1.8	amperes
Direct Interelectrode Capacitances (Approx.):		
Plate to Heater and Cathode	8.5	pF
Cathode to Heater and Plate	11.5	pF
Heater to Cathode	4	pF

Damper Service

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

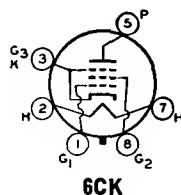
MAXIMUM RATINGS (Design-Maximum Values)

Peak Inverse Plate Voltage#	4500	volts
Peak Plate Current	1300	mA
Average Plate Current	210	mA
Plate Dissipation	6.5	watts
Heater-Cathode-Voltage:		
Peak value	+300 —4500	volts
Average value	+100 —900	volts

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

6AU5GT BEAM POWER TUBE

Glass octal type used as horizontal-deflection amplifier in low-cost, high-efficiency deflection circuits of television receivers. Outlines section, 13D; requires octal socket.



Heater Voltage (ac/dc)	6.3	volts
Heater Current	1.25	amperes
Heater-Cathode Voltage:		
Peak value	±200 max	volts
Average value	100 max	volts
Direct Interelectrode Capacitances (Approx.):		
Grid No.1 to Plate	0.5	pF
Grid No.1 to Cathode, Heater, Grid No.2, and Grid No.3	11.3	pF
Plate to Cathode, Heater, Grid No.2, and Grid No.3	7	pF

Class A₁ Amplifier**CHARACTERISTICS**

	Pentode Connection	Triode† Connection	
Plate Voltage	115	110	volts
Grid-No.2 (Screen-Grid) Voltage	175	100	volts
Grid-No.1 (Control-Grid) Voltage	-20	-4.5	volts
Plate Resistance	6000	—	ohms
Transconductance	5600	—	μmhos
Plate Current	60	—	mA
Grid No.2 Current	6.8	—	mA

† Grid No.2 connected to plate.