

Maximum Heater-Cathode Voltage	
Heater Negative with Respect to Cathode	
Total DC and Peak.....	200 Volts
Heater Positive with Respect to Cathode	
DC	100 Volts
Total DC and Peak.....	200 Volts

DIRECT INTERELECTRODE CAPACITANCES (Unshielded)	
Grid to Plate	2.6 Pf
Input: g ₁ to (h + k)	4.2 Pf
Output: p to (h + k)	0.9 Pf

RATINGS (Design Center Rating System)

Vertical Deflection Amplifier⁽¹⁾	
Plate Voltage (Max.)	500 Volts
Peak Positive Plate Voltage (Abs. Max.)	2200 Volts
Plate Dissipation (Max.) ⁽²⁾	7.5 Watts
Peak Negative Grid Voltage (Max.)	250 Volts
Average Cathode Current (Max.).....	30 Ma
Peak Cathode Current (Max.)	105 Ma
Grid Circuit Resistance	
Cathode Bias (Max.)	2.2 Megohms

CHARACTERISTICS AND TYPICAL OPERATION

Plate Voltage	250 Volts
Grid Voltage	-8 Volts
Plate Current	26 Ma
Transconductance	4500 μ mhos
Amplification Factor	16
Plate Resistance.....	3600 Ohms
Plate Current at E _c = -15 V	4.5 Ma
Grid Voltage for I _b = 50 μ a	-23 Volts

Vertical Deflection Amplifier

70° Picture Tube—15 Kv 2nd Anode Voltage	
Plate Supply Voltage.....	435 Volts
Plate Output Voltage	
Peak to Peak	900 Volts
Sawtooth Component	320 Volts
Grid Input Voltage	
Peak to Peak	60 Volts
Sawtooth Component	40 Volts
Average Cathode Current	16 Ma
Peak Cathode Current	40 Ma
Cathode Resistor	1200 Ohms

NOTES:

- (1) For operation in a 525 line, 30 frame system as described in "Standards of Good Engineering Practice for Television Broadcast Stations; Federal Communications Commission," the duty cycle of the voltage pulse must not exceed 15% of one horizontal scanning cycle.
- (2) In stages operating with grid leak bias, an adequate cathode bias resistor or other suitable means is required to protect the tube in the absence of excitation.

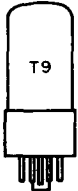
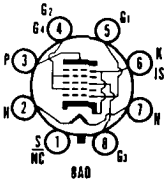
AM CONVERTER

6SA7GT

12SA7GT

Heptode

Construction	Octal T-9
Base.....	Octal 8 Pin, B8-6 or B8-58
Basing	8AD
Outline	9-11 or 9-41
Maximum Diameter	1.188 In.
Maximum Seated Height	2.750 In.
Maximum Overall Height	3.312 In.



**ELECTRICAL DATA
HEATER OPERATION**

	12SA7GT	6SA7GT
Heater Voltage.....	12.6	6.3 Volts
Heater Current	150	300 Ma
Maximum Heater-Cathode Voltage	90	90 Volts

DIRECT INTERELECTRODE CAPACITANCES

	Shielded	Unshielded
Mixer Grid No. 3 to Plate (Max.)	0.5	0.7 Pf
RF Input: g3 to (h + k + g1 + g2 + g4 + g5 + p)	9.5	9.5 Pf
Mixer Output: p to (h + k + g1 + g2 + g4 + g3 + g5)	9.5	6.5 Pf
Oscillator Grid to Cathode and Grid No. 5	3.5	3.0 Pf
Oscillator Input: g1 to (h + k + g2 + g4 + g3 + g5 + p) ..	8.0	8.0 Pf
Oscillator Output: k + g5 to (h + g2 + g4 + g3 + p)	20	14 Pf

Coupling

Oscillator Grid to Plate (Max.)	0.4	0.5 Pf
Mixer Grid No. 3 to Oscillator Grid	0.4	0.4 Pf
Oscillator Grid to All Except Cathode and Grid No. 5	5.0	5.0 Pf

RATINGS (Design Center Rating System)

Plate Voltage (Max.)	300 Volts
Grid No. 2 and Grid No. 4 Supply Voltage (Max.)	300 Volts
Grid No. 2 and Grid No. 4 Voltage (Max.)	100 Volts
Negative Grid No. 3 Voltage (Max.)	50 Volts
Positive Grid No. 3 Voltage (Max.)	0 Volt
Plate Dissipation (Max.)	1.0 Watt
Grid No. 2 and Grid No. 4 Dissipation (Max.)	1.0 Watt
Cathode Current (Max.)	14 Ma

CHARACTERISTICS AND TYPICAL OPERATION

Plate Voltage	100	250 Volts
Grid No. 2 and Grid No. 4 Voltage	100	100 Volts
Grid No. 3 Voltage	-2	-2 Volts
Oscillator Grid No. 1 Voltage (RMS)	10	10 Volts
Oscillator Grid No. 1 Resistance	20,000	20,000 Ohms
Oscillator Grid Current	0.5	0.5 Ma
Plate Current	3.3	3.5 Ma
Grid No. 2 and Grid No. 4 Current	8.5	8.5 Ma
Conversion Transconductance	425	450 μ mos
Plate Resistance (Approx.)	0.5	1.0 Megohm
Cathode Current	12.3	12.5 Ma
Ec3 for Gm = 10 μ mos (Approx.)	-25	-25 Volts
Ec3 for Gm = 100 μ mos (Approx.)	-9	-9 Volts

OSCILLATOR CHARACTERISTICS (Non-Oscillating)

Grid No. 2 and Grid No. 4 Voltage ⁽¹⁾	100 Volts
Grid No. 3 Voltage	0 Volt
Grid No. 1 Voltage	0 Volt
Transconductance between Grid No. 1 to Grid No. 2 and Grid No. 4 ⁽¹⁾ ..	4500 μ mos
Amplification Factor between Grid No. 1 and Grid No. 2 and Grid No. 4 ⁽¹⁾	14
Cathode Current	25 Ma
Ec1 for Ib = 10 μ A (Approx.)	-14 Volts

NOTE:

(1) Connected to plate.

6SJ7GT

12SJ7GT

RF or AF AMPLIFIER

Sharp Cutoff Pentode

Construction	Octal T-9
Base	Octal 8 Pin, B8-26
Basing	8N
Outline	9-12
Maximum Diameter	1.188 In.
Maximum Seated Height	2.750 In.
Maximum Overall Height	3.312 In.

ELECTRICAL DATA

HEATER OPERATION

Heater Voltage	12.6	6.3 Volts
Heater Current	150	300 Ma
Maximum Heater-Cathode Voltage	90	90 Volts

DIRECT INTERELECTRODE CAPACITANCES (Unshielded)

Grid No. 1 to Plate (Max.)	0.005 Pf
Input: g1 to (h + k + g2 + g3)	7.0 Pf
Output: p to (h + k + g2 + g3)	7.0 Pf

RATINGS (Design Center Rating System)

Plate Voltage (Max.)	300 Volts
Grid No. 3 Voltage	Connected to Cathode at Socket
Grid No. 2 Supply Voltage (Max.)	300 Volts

