

**ELECTRICAL DATA
HEATER OPERATION**

	8CM7	6CM7
Heater Voltage.....	8.4	6.3 Volts
Heater Current	450	600 Ma
Heater Warm-up Time	11	11 Seconds
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)

	Section 1 ⁽¹⁾	Section 2
Grid to Plate	3.8	3.0 Pf
Input: g to (k + h)	2.0	3.5 Pf
Output: p to (k + h)	0.5	0.4 Pf

RATINGS (Design Center Rating System)**Vertical Deflection Oscillator and Amplifier⁽²⁾**

	Section 1 ⁽¹⁾ (Oscillator)	Section 2 (Amplifier)
DC Plate Voltage (Max.)	500	500 Volts
Peak Positive Pulse Plate Voltage (Abs. Max.)	—	2200 Volts
Plate Dissipation (Max.) ⁽³⁾	1.25	5.5 Watts
Peak Negative Pulse Grid Voltage (Max.)	200	200 Volts
Average Cathode Current (Max.).....	15	20 Ma
Peak Cathode Current (Max.).....	70	70 Ma
Grid Circuit Resistance		
Fixed Bias (Max.)	2.2	1.0 Megohms
Cathode Bias (Max.)	2.2	2.5 Megohms

CHARACTERISTICS AND TYPICAL OPERATION

	Section 1 ⁽¹⁾ (Oscillator)	Section 2 (Amplifier)
Plate Voltage	200	250 Volts
Grid Voltage	-7	-8 Volts
Plate Current	5	20 Ma
Transconductance	2000	4400 μ mhos
Amplification Factor	21	18
Plate Resistance.....	10,500	4100 Ohms
Plate Current at $E_c = -10$ Volts	1.0	— Ma
Grid Voltage for $I_b = 10 \mu$ a	-14	— Volts

NOTES:

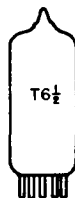
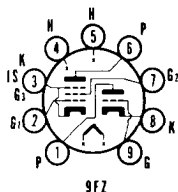
- (1) Section 1 connects to pins 3, 6, and 7. Section 2 connects to pins 1, 8, and 9.
- (2) For operation in a 525 line, 30 frame system as described in "Standards of Good Engineering Practice for Television Broadcast Stations; Federal Communications Commission," the duty cycle of the voltage pulse must not exceed 15% of one horizontal scanning cycle.
- (3) 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.

6CM8**5CM8****GENERAL PURPOSE AMPLIFIER (T)
IF/VIDEO/AGC AMPLIFIER (P)****High Mu Triode and
Sharp Cutoff Pentode**

Construction	Miniature T-6½
Base	Button 9 Pin, E9-1
Basing	9FZ
Outline	6-2
Maximum Diameter	0.875 In.
Maximum Seated Height	1.937 In.
Maximum Overall Height	2.187 In.

**ELECTRICAL DATA
HEATER OPERATION**

	5CM8	6CM8
Heater Voltage.....	4.7	6.3 Volts
Heater Current	600	450 Ma
Heater Warm-up Time	11	11 Seconds



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)

Triode Section

Grid to Plate	1.9 Pf
Input: g to (h + k)	1.6 Pf
Output: p to (h + k)	0.22 Pf

Pentode Section

Grid No. 1 to Plate (Max.).....	0.04 Pf
Input: g1 to (h + k + g2 + g3 + IS).....	6.0 Pf
Output: p to (h + k + g2 + g3 + IS).....	2.6 Pf

Coupling

Pentode Plate to Triode Grid (Max.)	0.01 Pf
Pentode Grid No. 1 to Triode Plate (Max.)	0.15 Pf
Pentode Plate to Triode Plate (Max.)	0.10 Pf

RATINGS (Design Center Rating System)

	Triode	Pentode
Plate Voltage (Max.)	300	300 Volts
Grid No. 2 Supply Voltage (Max.)	—	300 Volts
Grid No. 2 Voltage	See Rating Chart (Gen. Info. Sec.)	
Positive Grid No. 1 Voltage (Max.)	0	0 Volt
Plate Dissipation (Max.)	1.0	2.0 Watts
Grid No. 2 Dissipation (Max.)	—	0.5 Watt
Grid No. 1 Circuit Resistance		
Self Bias (Max.)	—	1.0 Megohm
Fixed Bias (Max.)	—	0.25 Megohm

CHARACTERISTICS AND TYPICAL OPERATION

Class A1 Amplifier

	Triode	Pentode
Plate Supply Voltage.....	250	200 Volts
Grid No. 2 Voltage	—	150 Volts
Grid No. 1 Voltage	-2	0 Volts
Cathode Bias Resistor	—	180 Ohms
Plate Current	1.8	9.5 Ma
Grid No. 2 Current	—	2.8 Ma
Amplification Factor	100	—
Plate Resistance (Approx.)	50,000	600,000 Ohms
Transconductance	2000	6200 μ mhos
Grid No. 1 Voltage for Ib = 10 μ a (Approx.)	—	-8 Volts

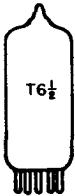
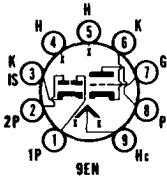
Color Television Type

REACTANCE TUBE or SYNC
SEP/AMP (T); PHASE DETECTOR (D)

6CN7
8CN7

Double Diode and High Mu Triode

Construction	Miniature T-6½
Base	Button 9 Pin, E9-1
Basing	9EN
Outline	6-2
Maximum Diameter	.0875 In.
Maximum Seated Height	1.937 In.
Maximum Overall Height	2.187 In.



ELECTRICAL DATA
HEATER OPERATION

	8CN7	6CN7
Heater Voltage Series/Parallel.....	8.4/4.2	6.3/3.15 Volts
Heater Current	225/450	300/600 Ma
Heater Warm-up Time	11	11 Seconds
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