

Heater Positive with Respect to Cathode

DC	100 Volts
Total DC and Peak.....	200 Volts

DIRECT INTERELECTRODE CAPACITANCES (Unshielded)

Grid No. 1 to Plate	0.2 Pf
Input: g1 to (h + k + g2 + b.p.)	16 Pf
Output: p to (h + k + g2 + b.p.)	7.5 Pf

RATINGS (Design Maximum Rating System)**Horizontal-Deflection Amplifier Service⁽¹⁾**

DC Plate-Supply Voltage (Boost + DC Power Supply) (Max.)	770 Volts
Peak Positive Pulse Plate Voltage (Max.)	5000 Volts
Peak Negative Pulse Plate Voltage (Max.)	1500 Volts
Screen Voltage (Max.)	220 Volts
Negative DC Grid No. 1 Voltage (Max.)	55 Volts
Peak Negative Grid No. 1 Voltage (Max.)	330 Volts
Plate Dissipation (Max.) ⁽²⁾	9.0 Watts
Screen Dissipation (Max.)	2.5 Watts
DC Cathode Current (Max.)	160 Ma
Peak Cathode Current (Max.)	500 Ma
Grid No. 1 Circuit Resistance (Max.)	1.0 Megohm
Bulb Temperature at Hottest Point (Max.)	200 °C

CHARACTERISTICS AND TYPICAL OPERATION

Plate Voltage	250 Volts
Screen Voltage	150 Volts
Grid No. 1 Voltage	-26.5 Volts
Plate Resistance (Approx.)	260,000 Ohms
Transconductance	4700 μ mhos
Plate Current	34 Ma
Screen Current	1.6 Ma
Grid No. 1 Voltage (Approx.) Ib = 1.0 Ma	-46 Volts
Triode Amplification Factor ⁽⁴⁾	4.2

INSTANTANEOUS PLATE KNEE VALUES⁽³⁾

Eb = 60 V, Ec2 = 150 V, and Ec1 = 0 V
Ib = 345 Ma and Ic2 = 27 Ma

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.
- (3) Applied for short interval (two seconds maximum) so as not to damage tube.
- (4) Triode connection (screen tied to plate) with Eb = Ec2 = 150 volts and Ec1 = -26.5 volts.

6GF7

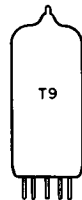
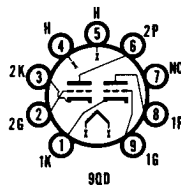
10GF7, 13GF7

Color Television Type

**VERTICAL DEFLECTION
OSCILLATOR and AMPLIFIER****Double Dissimilar Triode**

Construction Novar T-9
Base Novar Button 9 Pin, E9-75
Basing 9QD
Outline

Maximum Diameter 1.188 In.
Maximum Seated Height 2.620 In.
Maximum Overall Height 3.000 In.

**ELECTRICAL DATA****HEATER OPERATION**

	13GF7	10GF7	6GF7
Heater Voltage.....	13.0	9.7	6.3 Volts
Heater Current	450	600	985 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 No. 1	Section No. 2
Grid to Plate	4.6	9.0 Pf
Input: g to (h + k)	2.4	6.5 Pf
Output: p to (h + k)	0.26	1.4 Pf

**RATINGS (Design Maximum Rating System)
Vertical Deflection Oscillator and Amplifier⁽¹⁾**

	Section No. 1 Oscillator	Section No. 2 Amplifier
DC Plate Voltage (Max.)	330	330 Volts
Peak Positive Pulse Plate Voltage (Abs. Max.)	—	1500 Volts
Peak Negative Pulse Grid Voltage (Max.)	400	250 Volts
Plate Dissipation (Max.) ⁽²⁾	1.5	10 Watts
Average Cathode Current (Max.)	22	50 Ma
Peak Cathode Current (Max.)	77	175 Ma
Grid Circuit Resistance (Self Bias) (Max.)	2.2	2.2 Megohms

CHARACTERISTICS AND TYPICAL OPERATION

	Section No. 1 ⁽³⁾	Section No. 2 ⁽³⁾
Plate Voltage	250	150 Volts
Grid No. 1 Voltage	-3	-20 Volts
Plate Current	1.4	50 Ma
Transconductance	1600	7200 μ mhos
Amplification Factor	64	5.4
Plate Resistance (Approx.)	40,000	750 Ohms
E_c for $I_b = 10 \mu$ a (Approx.)	-5.5	— Volts
E_c for $I_b = 100 \mu$ a (Approx.)	—	-45 Volts
I_b at $E_c = -28$ Vdc (Approx.)	—	10 Ma

INSTANTANEOUS PLATE KNEE VALUES (Section No. 2) $E_b = 60$ V; $E_c = 0$; $I_b = 95$ Ma**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 bias resistor or other suitable means is required to protect the tube in the absence of excitation.
- (3) Section No. 1 connects to Pins 4, 5, and 6.

**AVERAGE PLATE CHARACTERISTICS
(Section No. 1)**