

Grid No. 1 Circuit Resistance		
With Cathode Bias (Max.)		2.2 Megohms
With Fixed Bias (Max.)		1.0 Megohm
Bulb Temperature at Hottest Point (Max.)		200 °C
CHARACTERISTICS AND TYPICAL OPERATION		
Plate Voltage	60	250 Volts
Screen Voltage	250	250 Volts
Grid No. 1 Voltage	0 ⁽³⁾	-20 Volts
Plate Resistance (Approx.)	—	50,000 Ohms
Transconductance	—	4100 μ mhos
Plate Current	180	43 Ma
Screen Current	26	3.5 Ma
Grid No. 1 Voltage (Approx.)	—	-50 Volts
Ib = 100 μ a	—	

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.

Color Television Type

VHF AMPLIFIER or OSCILLATOR and MIXER

6EZ8

19EZ8

Triple Triode

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

**ELECTRICAL DATA
HEATER OPERATION**

	19EZ8	6EZ8
Heater Voltage	18.9	6.3 Volts
Heater Current	150	450 Ma
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

	Shielded	Unshielded
Grid to Plate (Each Section)	1.5	1.5 Pf
Input (Each Section)	2.6	2.4 Pf
Output (Section No. 1)	1.4	0.21 Pf
Output (Section No. 2)	1.2	0.4 Pf
Output (Section No. 3)	1.2	0.36 Pf
Heater to Cathode (Section No. 3)	0.15	0.17 Pf

RATINGS (Design Maximum Rating System) (Each Section)

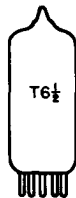
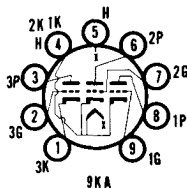
Plate Voltage (Max.)		300 Volts
Plate Dissipation (Each Plate) (Max.)		2.0 Watts
Plate Dissipation (Plates 1, 2 and 3) (Max.)		5.0 Watts
Positive Grid Voltage (Max.)		0 Volt
Negative Grid Voltage (Max.)		50 Volts

CHARACTERISTICS AND TYPICAL OPERATION**Class A1 Amplifier—Each Section**

Plate Voltage		125 Volts
Grid Voltage		-1.0 Volt
Plate Current		4.2 Ma
Plate Resistance		13,600 Ohms
Transconductance		4200 μ mhos
Amplification Factor		57
Ec for Ib = 20 μ a		-4 Volts

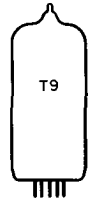
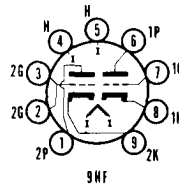
NOTE:

- (1) Section No. 1 connects to Pins 4, 8 and 9. Section No. 2 connects to Pins 4, 6 and 7. Section No. 3 connects to Pins No. 1, 2 and 3.



6FD7**10FD7, 13FD7****VERTICAL DEFLECTION
OSCILLATOR and AMPLIFIER****Dissimilar Double Triode**

Construction 9T-9
 Base Button 9 Pin, E9-68
 Basing⁽¹⁾ 9HF
 Outline 9-70 or 9-77
 Maximum Diameter 1.188 In.
 Maximum Seated Height 2.620 In.
 Maximum Overall Height 2.900 In.

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

	13FD7	10FD7	6FD7
Heater Voltage.....	13.0	9.7	6.3 Volts
Heater Current	450	600	925 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⁾ No. 1	Section ⁽¹⁾ No. 2
Grid to Plate	4.5	10 Pf
Input: g to (h + k)	2.2	6.5 Pf
Output: p to (h + k)	0.40	1.2 Pf

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

	Section ⁽¹⁾ No. 1 Oscillator	Section ⁽¹⁾ No. 2 Amplifier
Plate Voltage (Max.)	330	330 Volts
Peak Positive Pulse Plate Voltage (Max.)	—	1500 Volts
Peak Negative Pulse Grid Voltage (Max.)	400	250 Volts
Plate Dissipation (Max.) ⁽³⁾	1.5	10 Watts
Average Cathode Current (Max.).....	20	50 Ma
Peak Cathode Current (Max.)	70	175 Ma
Grid Circuit Resistance		
Self Bias	2.2	2.2 Megohms

CHARACTERISTICS AND TYPICAL OPERATION

	Section ⁽¹⁾ No. 1	Section ⁽¹⁾ No. 2
Plate Voltage	250	150 Volts
Grid No. 1 Voltage	-3	-17.5 Volts
Plate Current	1.4	40 Ma
Transconductance	1600	7500 μ mhos
Amplification Factor	64	6.0
Plate Resistance (Approx.)	40,000	800 Ohms
Ec for Ib = 10 μ a (Approx.).....	-5.5	— Volts
Ec for Ib = 100 μ a (Approx.).....	—	-40 Volts
Gm at Ib = 1.0 Ma	—	500 μ mhos
Ib at Ec = -25 Vdc (Approx.)	—	6 Ma
Ib with Eb = 60 V and Ec = 0 V (Instantaneous Values)....	—	95 Ma

NOTES:

- (1) Section No. 1 connects to Pins 6, 7 and 8. Section No. 2 connects to Pins 1, 2 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 bias resistor or other suitable means is required to protect the tube in the absence of excitation.