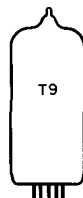
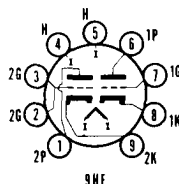


**6FD7****10FD7, 13FD7****VERTICAL DEFLECTION  
OSCILLATOR and AMPLIFIER****Dissimilar Double Triode**

Construction ..... 9T-9  
 Base ..... Button 9 Pin, E9-68  
 Basing<sup>(1)</sup> ..... 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 <sup>(1)</sup><br>No. 1 | Section <sup>(1)</sup><br>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<sup>(2)</sup>**

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

**NOTES:**

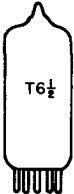
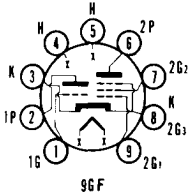
- (1) Section No. 1 connects to Pins 6, 7 and 8. Section No. 2 connects to Pins 1, 2 and 9.
- (2) For operation in a 525 line, 30 frame system as described in "Standards of Good Engineering Practice for Television Broadcast Stations; Federal Communications Commission," the duty cycle of the voltage pulse 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.

Color Television Type  
**VHF OSCILLATOR and MIXER**

**6FG7**  
5FG7

**Medium Mu Triode and  
Semi-Remote Cutoff Pentode**

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



**ELECTRICAL DATA  
HEATER OPERATION**

|                                         | 5FG7 | 6FG7       |
|-----------------------------------------|------|------------|
| 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**

|                                 | Shielded (1) | Unshielded |
|---------------------------------|--------------|------------|
| <b>Triode Section</b>           |              |            |
| Grid to Plate .....             | 1.8          | 1.8 Pf     |
| Input: g to (h + k) .....       | 3.0          | 3.0 Pf     |
| Output: p to (h + k) .....      | 1.9          | 1.3 Pf     |
| <b>Pentode Section</b>          |              |            |
| Grid No. 1 to Plate (Max.)..... | 0.01         | 0.020 Pf   |
| Input: g1 to (h + k + g2).....  | 5.0          | 5.0 Pf     |
| Output: p to (h + k + g2).....  | 3.4          | 2.4 Pf     |

**AVERAGE PLATE CHARACTERISTICS  
(Pentode Section)**

