

**Triode (Section 2)**

|                                       |            |
|---------------------------------------|------------|
| Plate Voltage (Max.) .....            | 330 Volts  |
| Positive DC Grid Voltage (Max.) ..... | 0 Volt     |
| Plate Dissipation (Max.) .....        | 2.0 Watts  |
| Grid 1 Circuit Resistance             |            |
| Fixed Bias (Max.) .....               | 0.5 Megohm |
| Cathode Bias (Max.) .....             | 1.0 Megohm |

**Pentode Section**

|                                       |                                    |
|---------------------------------------|------------------------------------|
| Plate Voltage (Max.) .....            | 330 Volts                          |
| Screen Supply Voltage (Max.) .....    | 330 Volts                          |
| Screen Voltage .....                  | See Rating Chart (Gen. Info. Sec.) |
| Positive DC Grid Voltage (Max.) ..... | 0 Volt                             |
| Plate Dissipation (Max.) .....        | 5.0 Watts                          |
| Screen Dissipation (Max.) .....       | 1.1 Watts                          |
| Grid 1 Circuit Resistance             |                                    |
| Fixed Bias (Max.) .....               | 0.25 Megohm                        |
| Cathode Bias (Max.) .....             | 1.0 Megohm                         |

**CHARACTERISTICS AND TYPICAL OPERATION****Triode (Section 1)**

|                                         |                 |
|-----------------------------------------|-----------------|
| Plate Voltage .....                     | 200 Volts       |
| Grid Voltage .....                      | -2.0 Volts      |
| Plate Current .....                     | 7.0 Ma          |
| Transconductance .....                  | 5500 $\mu$ mhos |
| Plate Resistance (Approx.) .....        | 12,400 Ohms     |
| Amplification Factor .....              | 68              |
| Grid Voltage for $I_b = 10 \mu$ a. .... | -5.5 Volts      |

**Triode (Section 2)**

|                                          |                 |
|------------------------------------------|-----------------|
| Plate Voltage .....                      | 200 Volts       |
| Cathode Bias Resistor .....              | 220 Ohms        |
| Plate Current .....                      | 9.2 Ma          |
| Transconductance .....                   | 4400 $\mu$ mhos |
| Plate Resistance (Approx.) .....         | 9400 Ohms       |
| Amplification Factor .....               | 41              |
| Grid Voltage for $I_b = 100 \mu$ a. .... | -6.5 Volts      |

**Pentode Section**

|                                           |                   |
|-------------------------------------------|-------------------|
| Plate Voltage .....                       | 200 Volts         |
| Screen Voltage .....                      | 125 Volts         |
| Cathode Bias Resistor .....               | 68 Ohms           |
| Plate Current .....                       | 24 Ma             |
| Screen Current .....                      | 5.2 Ma            |
| Transconductance .....                    | 10,500 $\mu$ mhos |
| Plate Resistance (Approx.) .....          | 70,000 Ohms       |
| Grid 1 Voltage for $I_b = 10 \mu$ a. .... | -8 Volts          |

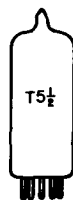
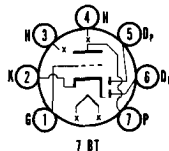
Color Television Type

**AF AMPLIFIER AND DETECTOR****6AT6**

12AT6

**Double Diode and High Mu Triode**

|                              |                |
|------------------------------|----------------|
| Construction .....           | Miniature T-5½ |
| Base .....                   | Button 7 Pin   |
| Basing .....                 | 7BT            |
| Outline .....                | 5-2            |
| Maximum Diameter .....       | 0.750 In.      |
| Maximum Seated Height .....  | 1.875 In.      |
| Maximum Overall Height ..... | 2.125 In.      |

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

|                                      | 12AT6 | 6AT6      |
|--------------------------------------|-------|-----------|
| Heater Voltage.....                  | 12.6  | 6.3 Volts |
| Heater Current .....                 | 150   | 300 Ma    |
| Maximum Heater-Cathode Voltage ..... | 90    | 90 Volts  |

**DIRECT INTERELECTRODE CAPACITANCES**

|                                        | Shielded <sup>(1)</sup> | Unshielded |
|----------------------------------------|-------------------------|------------|
| Grid to Plate .....                    | 2.0                     | 2.0 Pf     |
| Input: g to (h + k) .....              | 2.2                     | 2.2 Pf     |
| Output: p to (h + k) .....             | 1.2                     | 0.8 Pf     |
| Diode Plate No. 2 to Grid (Max.) ..... | 0.04                    | 0.04 Pf    |

**RATINGS (Design Maximum Rating System)****Triode**

|                                    |           |
|------------------------------------|-----------|
| Plate Voltage (Max.) .....         | 300 Volts |
| Plate Dissipation (Max.) .....     | 0.5 Watt  |
| Positive-Grid Voltage (Max.) ..... | 0 Volt    |

**Diode**

|                                           |        |
|-------------------------------------------|--------|
| Diode Current (Each Section) (Max.) ..... | 1.0 Ma |
|-------------------------------------------|--------|

**CHARACTERISTICS AND TYPICAL OPERATION****Class A1 Amplifier**

|                                                           |        |                 |
|-----------------------------------------------------------|--------|-----------------|
| Plate Voltage .....                                       | 100    | 250 Volts       |
| Grid Voltage .....                                        | -1     | -3 Volts        |
| Plate Current .....                                       | 0.8    | 1.0 Ma          |
| Transconductance .....                                    | 1300   | 1200 $\mu$ mhos |
| Amplification Factor .....                                | 70     | 70              |
| Plate Resistance .....                                    | 54,000 | 58,000 Ohms     |
| Average Diode Current at 10 Volts DC <sup>(2)</sup> ..... | 2.0    | 2.0 Ma          |

**NOTES:**

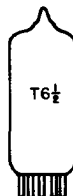
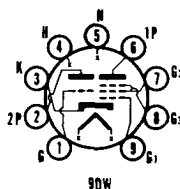
- (1) Shield No. 316 connected to cathode.  
 (2) Test condition only.

**6AT8A****5AT8**

Color Television Type

**VHF OSCILLATOR AND MIXER****Medium Mu Triode and Sharp Cutoff Pentode**

|                              |                    |
|------------------------------|--------------------|
| Construction .....           | Miniature T-6½     |
| Base .....                   | Button 9 Pin, E9-1 |
| Basing .....                 | .9DW               |
| Outline .....                | 6-2                |
| Maximum Diameter .....       | 0.875 In.          |
| Maximum Seated Height .....  | 1.938 In.          |
| Maximum Overall Height ..... | 2.188 In.          |

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

|                                         | <b>5AT8</b> | <b>6AT8A</b> |
|-----------------------------------------|-------------|--------------|
| 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**

|                                                       | <b>Shielded<sup>(1)</sup></b> | <b>Unshielded</b> |
|-------------------------------------------------------|-------------------------------|-------------------|
| <b>Triode Section</b>                                 |                               |                   |
| Grid to Plate .....                                   | 1.5                           | 1.5 Pf            |
| Input .....                                           | 2.4                           | 2.0 Pf            |
| Output .....                                          | 1.0                           | 0.5 Pf            |
| <b>Pentode Section</b>                                |                               |                   |
| Grid No. 1 to Plate (Max.) .....                      | 0.016                         | 0.025 Pf          |
| Input .....                                           | 4.7                           | 4.5 Pf            |
| Output .....                                          | 1.6                           | 0.9 Pf            |
| <b>Pentode Section Triode Connected<sup>(2)</sup></b> |                               |                   |
| Grid No. 1 to Plate .....                             | 1.3                           | 1.3 Pf            |
| Input .....                                           | 3.3                           | 3.0 Pf            |
| Output .....                                          | 2.5                           | 1.7 Pf            |
| <b>Coupling</b>                                       |                               |                   |
| Pentode Grid No. 1 to Triode Plate (Max.) .....       | 0.04                          | 0.05 Pf           |
| Pentode Plate to Triode Plate (Max.) .....            | 0.007                         | 0.05 Pf           |
| Heater to Cathode .....                               | 6.5 <sup>(3)</sup>            | 6.5 Pf            |