

**SUBMINIATURE TUBES (SCREEN GRID TYPES)**

| TYPE NO.  | FILAMENT     |               | CAPACITANCES $\mu\mu f$ |       |        | PLATE |                     | Grid No. 1<br>Volts | Grid No. 2<br>Volts | PLATE          |                            |
|-----------|--------------|---------------|-------------------------|-------|--------|-------|---------------------|---------------------|---------------------|----------------|----------------------------|
|           | D-C<br>Volts | Current<br>ma | G-P                     | Input | Output | Volts | Diss.<br>Milliwatts |                     |                     | Micro.<br>Amps | Resist-<br>ance<br>Megohms |
| 6007/5913 | 1.25         | 13.3          | 0.2                     | 2.5   | 2.2    | 45    | 25                  | -0.2                | 45                  | 475            | 0.4                        |
| 6008/5911 | 0.625        | 13.3          | 0.2                     |       | 1.5    | 45    | 1.5                 | -0.2                | 45                  | 50             | 0.4                        |

**ENTERTAINMENT & AUDIO TUBES**

| TYPE NO.   | FILAMENT |      | TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS |                                                                                                                                                                                       |          |            |                             |                        |                                |                           |
|------------|----------|------|--------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|------------|-----------------------------|------------------------|--------------------------------|---------------------------|
|            |          |      | Circuit Application                              | Applied Voltages                                                                                                                                                                      |          |            | Plate Current (ma)          | Screen Current (ma)    | Amplification Factor           | Plate Resistance (K ohms) |
|            | Volts    | Amps |                                                  | Plate                                                                                                                                                                                 | Screen   | Grid       |                             |                        |                                |                           |
| 1S2A       | 1.4      | 0.55 | Peak Inverse Voltage<br>22,000 (absolute max.)   |                                                                                                                                                                                       |          |            |                             | Plate Current<br>40 ma |                                |                           |
| 2ER5       | 2.1      | 0.6  | VHF Triode for TV tuners                         | 200                                                                                                                                                                                   | —        | -1.2       | 10.0                        | —                      | 80                             | —                         |
| 2FY5       | 2.4      | 0.6  | VHF Triode for TV tuners                         | 135                                                                                                                                                                                   | —        | -4.5       | 11.0                        | —                      | 70                             | —                         |
| 2GK5       | 2.3      | 0.6  | VHF Triode                                       | 135                                                                                                                                                                                   | —        | -1         | 11                          | —                      | 70                             | 5.2                       |
| 2HA5       | 2.2      | 0.6  | RF Amplifier triode                              | 200                                                                                                                                                                                   | —        | -5.7       | 11.5                        | —                      | 72                             | 5.6                       |
| 3EH7/XF183 | 3.4      | 0.6  | IF Amplifier                                     | 200                                                                                                                                                                                   | 90       | -2         | 12                          | 4.5                    | —                              | 500                       |
| 3EJ7/XF184 | 3.4      | 0.6  | IF Amplifier                                     | 200                                                                                                                                                                                   | 200      | -2.5       | 10                          | 4.1                    | 60                             | 350                       |
| 3ER5       | 2.8      | 0.45 | RF Amplifier triode                              | 200                                                                                                                                                                                   | —        | -1.2       | 10.0                        | —                      | 80                             | —                         |
| 3FY5       | 3.1      | 0.45 | RF Amplifier triode                              | 135                                                                                                                                                                                   | —        | -4.5       | 11.0                        | —                      | 70                             | —                         |
| 3GK5       | 2.8      | 0.45 | VHF Triode                                       | 135                                                                                                                                                                                   | —        | -1         | 11                          | —                      | 70                             | 5.2                       |
| 3HA5       | 3.1      | 0.45 | RF Amplifier triode                              | 200                                                                                                                                                                                   | —        | -5.7       | 11.5                        | —                      | 72                             | 5.6                       |
| 4EH7/YF183 | 4.4      | 0.45 | IF Amplifier                                     | 250                                                                                                                                                                                   | 250      | -1.3       | 10.0                        | 4.1                    | 60                             | 350                       |
| 4EJ7/YF184 | 4.4      | 0.45 | IF Amplifier                                     | 200                                                                                                                                                                                   | 200      | -2.5       | 10                          | 4.1                    | 60                             | 350                       |
| 4ES8       | 4.2      | 0.6  | Low Noise Cascode RF Amplifier                   | 90                                                                                                                                                                                    | —        | -1.2       | 15                          | —                      | 34                             | 2.72                      |
| 4GJ7       | 4.3      | 0.6  | TV oscillator mixer: Triode-Pentode              | 100<br>170                                                                                                                                                                            | —<br>120 | -3<br>-1.2 | 15<br>10                    | —<br>3.0               | —<br>20                        | —<br>>350                 |
| 4GK5       | 4.0      | 0.6  | VHF Triode                                       | 135                                                                                                                                                                                   | —        | -1         | 11                          | —                      | 70                             | 5.2                       |
| 4HA5       | 3.8      | 0.3  | RF Amplifier triode                              | 200                                                                                                                                                                                   | —        | -5.7       | 11.5                        | —                      | 72                             | 5.6                       |
| 5AR4/GZ34  | 5.0      | 1.9  | Full Wave Rectifier                              | AC Supply (Plate-to-Plate) Voltage (RMS) = 2X 550 volts<br>DC Output Current (max.) = 250 ma<br>Max. Capacity Condenser Input Filter = 60 $\mu f$<br>DC Output Voltage = 610 volts dc |          |            |                             |                        |                                |                           |
| 5ES8       | 5.6      | 0.45 | Cascode AGC Controlled RF Amplifier              | 90                                                                                                                                                                                    | —        | -1.4       | 15.0                        | —                      | 34                             | 2.5                       |
| 5GJ7       | 5.7      | 0.45 | Pentode-Triode Osc.-mixer for TV applications    | 170<br>100                                                                                                                                                                            | 120<br>— | -1.2<br>-3 | 10<br>15                    | 3.0<br>—               | —<br>20                        | >350                      |
| 6AJ8       | 6.3      | 0.3  | General purpose Triode-Heptode                   | 250<br>250                                                                                                                                                                            | —<br>100 | 0<br>-2    | 13.5<br>6.5                 | —<br>3.8               | 22<br>20                       | 33<br>—                   |
| 6AL3/EY88  | 6.3      | 1.55 |                                                  | Peak inverse<br>7,500 absolute maximum                                                                                                                                                |          |            | Peak anode<br>current 55 ma |                        | Average Anode<br>current 22 ma |                           |

|  | Trans-<br>conductance<br>Micromhos | Output<br>Milliwatts | DESCRIPTION                                                                                                                                                                     | TYPE NO.  |
|--|------------------------------------|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
|  | 420                                | 6                    | Radiation-cooled pentode output amplifier for hearing aids and other purposes, where small size, light weight and low battery drain are important. An ideal tube for receivers. | 6007/5913 |
|  | 100                                | 2.25                 | Same as above except this tube is a voltage amplifier.                                                                                                                          | 6008/5911 |

|  | Trans-<br>conduct-<br>ance<br>(microm-<br>hos) | Max. Power<br>Output - 2<br>Tubes, Push<br>Pull<br>Class B | Load<br>Resist-<br>ance<br>(K ohms) | Cut-Off<br>Bias<br>(volts) | DESCRIPTION                                                                                                                                                                                                    | TYPE NO.   |
|--|------------------------------------------------|------------------------------------------------------------|-------------------------------------|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
|  |                                                |                                                            |                                     |                            | Miniature half-wave vacuum rectifier designed for use in high voltage, low current applications in TV scanning systems.                                                                                        | 1S2A       |
|  | 10,500                                         | —                                                          | —                                   | —                          | Miniature frame grid shielded triode with remote cut-off. Low noise figure at 220 Mc. Operates at low supply voltages. Controlled warm-up for 600 ma series string operation.                                  | 2ER5       |
|  | 13,000                                         | —                                                          | —                                   | —                          | Frame grid shielded triode with remote cut-off, for low supply voltages. Controlled warm-up for 600 ma series string operation.                                                                                | 2FY5       |
|  | 13,000                                         | —                                                          | —                                   | -4.2                       | A high gain frame grid VHF triode for series operation.                                                                                                                                                        | 2GK5       |
|  | 14,500                                         | —                                                          | —                                   | —                          | Ampliframe shielded triode for TV RF amplifiers. High stage gain, low noise figure, low interelectrode capacitance.                                                                                            | 2HA5       |
|  | 12,500                                         | —                                                          | —                                   | —                          | See 6EH7 designed for warm-up series string operation.                                                                                                                                                         | 3EH7/XF183 |
|  | 15,000                                         | —                                                          | —                                   | —                          | See 6EJ7 designed for warm-up series string operation.                                                                                                                                                         | 3EJ7/XF184 |
|  | 10,500                                         | —                                                          | —                                   | —                          | Frame grid shielded triode with remote cut-off and low noise figure. For use in VHF tuners with low supply voltages. Controlled warm-up for 450 ma series string operation.                                    | 3ER5       |
|  | 13,000                                         | —                                                          | —                                   | —                          | Miniature frame grid shielded triode with remote cut-off. Designed for VHF tuners in television receivers. Low noise figure at 220 Mc and operates at low supply voltages.                                     | 3FY5       |
|  | 13,000                                         | —                                                          | —                                   | -4.2                       | A high gain frame grid VHF triode for 450 ma series string operation.                                                                                                                                          | 3GK5       |
|  | 14,500                                         | —                                                          | —                                   | —                          | Ampliframe shielded triode for TV RF amplifiers. High stage gain, low noise figure and low interelectrode capacitances.                                                                                        | 3HA5       |
|  | 15,000                                         | —                                                          | —                                   | —                          | Frame grid remote cut-off pentode designed for use as an IF amplifier in television receivers.                                                                                                                 | 4EH7/YF183 |
|  | 15,000                                         | —                                                          | —                                   | —                          | See 6EJ7 designed for warm-up series string operation.                                                                                                                                                         | 4EJ7/YF184 |
|  | 12,500                                         | —                                                          | —                                   | —                          | High performance frame-grid twin-triode with remote cut-off characteristics. Designed for use as a low noise cascode tube for 600 mA series string operation in premium TV tuners.                             | 4ES8       |
|  | 11,000                                         | —                                                          | —                                   | —                          | Ampliframe triode-pentode designed for operation as an oscillator-mixer in television applications. Stable oscillator performance at low line voltage. Controlled warm-up for 600 ma series string operation.  | 4G57       |
|  | 13,000                                         | —                                                          | —                                   | -4.2                       | A high gain frame grid VHF triode for series operation.                                                                                                                                                        | 4GK5       |
|  | 14,500                                         | —                                                          | —                                   | —                          | Ampliframe shielded triode for TV RF amplifiers. Controlled warm-up for 450 ma series string operation.                                                                                                        | 4HA5       |
|  |                                                |                                                            |                                     |                            | Indirectly heated, full-wave rectifier with 5.0 volt, 1.9 amp heater and 250 ma output capacity. Octal base.                                                                                                   | 5AR4/GZ34  |
|  | 12,500                                         | —                                                          | —                                   | —                          | High performance, frame grid triode with remote cut-off characteristics. Designed for use as low noise cascode tube in premium TV tuners.                                                                      | 5ES8       |
|  | 11,000                                         | —                                                          | —                                   | —                          | Ampliframe triode-pentode for operation as an oscillator mixer in television applications. Has stable oscillator performance even at low line voltages. Controlled warm-up for 450 ma series string operation. | 5GJ7       |
|  | 650<br>2,400                                   | —                                                          | —                                   | —                          | Triode-heptode designed for use in AM, FM and television receivers.                                                                                                                                            | 6AJ8       |
|  |                                                |                                                            |                                     |                            | Booster diode designed for application in horizontal circuits in TV receivers.                                                                                                                                 | 6AL3/EY88  |