

# PREMIUM TUBES — Cont'd

Designed to Meet Military Specifications and Critical Industrial Applications

| <br>Type | Proto-<br>type | Name                              | Description and/or<br>Difference Between<br>Type and Prototype                                                                                                   |                 |                | Special Tests and Controls |         |           |              |                        |           |              |               |                |            |                     |
|-------------------------------------------------------------------------------------------|----------------|-----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|----------------|----------------------------|---------|-----------|--------------|------------------------|-----------|--------------|---------------|----------------|------------|---------------------|
|                                                                                           |                |                                   | Rating or<br>Characteristic                                                                                                                                      | Premium<br>Type | Proto-<br>Type | Shock                      | Fatigue | Vibration | Glass Strain | RF Noise, Microphonics | Stability | Inoperatives | High-Altitude | Heater-Cycling | Room Temp. | Elevated Bulb Temp. |
| <b>5726/<br/>6AL5-W/<br/>6097</b>                                                         | 6AL5           | Twin Diode*                       | This type is designed to meet the indicated military specification.                                                                                              |                 |                | ✓                          | ✓       | ✓         | ✓            | —                      | ✓         | ✓            | ✓             | ✓              | —          | ✓                   |
| <b>5727</b>                                                                               | 2D21           | Thyratron<br>Tetrode*             | Heater-Cathode Type. Relay, grid-controlled rectifier, and pulse-modulator service. Operates in a high-sensitivity circuit directly from a vacuum photo-tube.    |                 |                | ✓                          | ✓       | ✓         | ✓            | —                      | ✓         | ✓            | ✓             | ✓              | —          | ✓                   |
| <b>5727/<br/>2D21-W</b>                                                                   | 2D21           | Thyratron<br>Tetrode*             | This type is designed to meet the indicated military specification.                                                                                              |                 |                | ✓                          | ✓       | ✓         | ✓            | —                      | ✓         | ✓            | ✓             | ✓              | ✓          | —                   |
| <b>5749</b>                                                                               | 6BA6           | Remote-Cutoff<br>Pentode*         | Heater-Cathode Type. For high-grain rf or if amplifier service, and automatic-gain-control circuits.                                                             |                 |                | ✓                          | ✓       | ✓         | ✓            | ✓                      | ✓         | ✓            | ✓             | ✓              | ✓          | —                   |
| <b>5749/<br/>68A6-W</b>                                                                   | 6BA6           | Remote-Cutoff<br>Pentode*         | This type is designed to meet the indicated military specification.                                                                                              |                 |                | ✓                          | ✓       | ✓         | ✓            | ✓                      | ✓         | ✓            | ✓             | ✓              | ✓          | —                   |
| <b>5750</b>                                                                               | 6BE6           | Pentagrid<br>Converter*           | Heater-Cathode Type. For renewal use only.                                                                                                                       |                 |                | ✓                          | ✓       | ✓         | ✓            | ✓                      | ✓         | ✓            | ✓             | ✓              | ✓          | —                   |
| <b>5751</b>                                                                               | 12AX7          | High-Mu<br>Twin Triode§           | This type is designed to meet the indicated military specification.                                                                                              |                 |                | ✓                          | ✓       | ✓         | ✓            | ✓                      | ✓         | ✓            | ✓             | ✓              | ✓          | —                   |
| <b>5751-WA</b>                                                                            | 12AX7          | High-Mu<br>Twin Triode§           | This type is designed to meet the indicated military specification.                                                                                              |                 |                | ✓                          | ✓       | ✓         | ✓            | ✓                      | ✓         | ✓            | ✓             | ✓              | ✓          | —                   |
| <b>5814-A</b>                                                                             | 12AU7          | Medium-Mu<br>Twin Triode§         | Heater Current<br>Amp./Sect.                                                                                                                                     | 0.175           | 0.15           | ✓                          | ✓       | ✓         | ✓            | ✓                      | ✓         | ✓            | ✓             | ✓              | ✓          | —                   |
|                                                                                           |                |                                   | Peak H-K Volts                                                                                                                                                   | ± 100           | ± 200          |                            |         |           |              |                        |           |              |               |                |            |                     |
|                                                                                           |                |                                   | Controlled Plate-<br>Current Balance                                                                                                                             | Yes             | No             |                            |         |           |              |                        |           |              |               |                |            |                     |
| <b>5814-WA</b>                                                                            | 12AU7          | Medium-Mu<br>Twin Triode§         | This type is designed to meet the indicated military specifications.                                                                                             |                 |                | ✓                          | ✓       | ✓         | ✓            | ✓                      | ✓         | ✓            | ✓             | ✓              | —          | ✓                   |
| <b>5840</b>                                                                               | —              | Sharp-Cutoff<br>Pentode*          | Heater-Cathode Type. Useful as an rf or if amplifier tube in broad-band circuits of mobile and aircraft equipment. Can be used up to 400 Mc. as an rf amplifier. |                 |                | ✓                          | ✓       | ✓         | ✓            | ✓                      | ✓         | ✓            | ✓             | ✓              | ✓          | —                   |
| <b>5896</b>                                                                               | —              | Twin Diode*                       | Heater-Cathode Type. A low-current rectifier and detector at frequencies through the uhf regions.                                                                |                 |                | ✓                          | ✓       | ✓         | ✓            | —                      | ✓         | ✓            | ✓             | ✓              | ✓          | —                   |
| <b>5899</b>                                                                               | —              | Semiremote-<br>Cutoff<br>Pentode* | Heater-Cathode Type. For use in agc rf and if amplifier circuits up to 400 Mc.                                                                                   |                 |                | ✓                          | ✓       | ✓         | ✓            | ✓                      | ✓         | ✓            | ✓             | ✓              | ✓          | —                   |
| <b>5902</b>                                                                               | —              | Beam-Power<br>Tube*               | Heater-Cathode Type. For use as an audio-amplifier and series-regulator tube in power supplies.                                                                  |                 |                | ✓                          | ✓       | ✓         | ✓            | ✓                      | ✓         | ✓            | ✓             | ✓              | ✓          | —                   |
| <b>6005</b>                                                                               | 6AQ5           | Beam-Power<br>Tube*               | Max. Bulb<br>Temperature, °C                                                                                                                                     | 225             | 250            | ✓                          | ✓       | ✓         | ✓            | ✓                      | ✓         | ✓            | ✓             | ✓              | ✓          | —                   |
| <b>6005/<br/>6AQ5-W</b>                                                                   | 6AQ5           | Beam-Power<br>Tube*               | This type is designed to meet the indicated military specification.                                                                                              |                 |                | ✓                          | ✓       | ✓         | ✓            | ✓                      | ✓         | ✓            | ✓             | ✓              | ✓          | —                   |
| <b>6005/<br/>6AQ5-W/<br/>6095</b>                                                         | 6AQ5           | Beam-Power<br>Tube*               | This type is designed to meet the indicated military specification.                                                                                              |                 |                | ✓                          | ✓       | ✓         | ✓            | ✓                      | ✓         | ✓            | ✓             | ✓              | ✓          | —                   |
| <b>6021</b>                                                                               | —              | Medium-Mu<br>Twin Triode*         | For general-purpose oscillator and amplifier applications. Each unit has a separate cathode.                                                                     |                 |                | ✓                          | ✓       | ✓         | ✓            | ✓                      | ✓         | ✓            | ✓             | ✓              | ✓          | —                   |

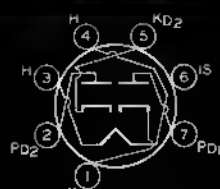
For key to terminal connections see page 30.

\* 7-pin miniature type.

§ 9-pin miniature type.

\* Subminiature type with flexible leads.

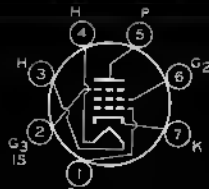
■ DC component must not exceed 100 volts.



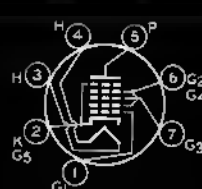
5726/6AL5-W/6097



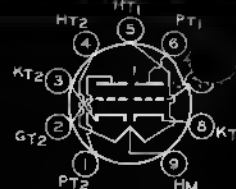
5727  
5727/2D21-W



5749 5749/68A6-W



5750



5751 5751-WA  
5814-A 5814-WA

# PREMIUM TUBES — Cont'd

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| Cathode     |               | Maximum Dimensions<br>Inches |       | Class of Service                            | Maximum Ratings                                                                                                                                                  |                            |                        |                           | Operating Conditions and Characteristics |                                                   |                            |                      |                             |                                 |                                  |                              | Type                     |      |
|-------------|---------------|------------------------------|-------|---------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|------------------------|---------------------------|------------------------------------------|---------------------------------------------------|----------------------------|----------------------|-----------------------------|---------------------------------|----------------------------------|------------------------------|--------------------------|------|
|             |               |                              |       |                                             | Plate Volts                                                                                                                                                      | Plate Dissipation<br>Watts | Cathode Current<br>Ma. | Grid-No. 2 Input<br>Watts | Plate Supply<br>Volts                    | Grid-No. 1 Volts(v) or Cathode Resistance<br>Ohms | Grid-No. 2 Supply<br>Volts | Plate Current<br>Ma. | AC Plate Resistance<br>Ohms | Trans-conductance<br>Micro-mhos | Amplification Factor             | Power Output<br>Watts        |                          |      |
| Volts       | Amps.         | Length                       | Diam. |                                             |                                                                                                                                                                  |                            |                        |                           |                                          |                                                   |                            |                      |                             |                                 |                                  |                              |                          |      |
| 6.3         | 0.3           | 1 3/4                        | 3/4   | Half-Wave Rectifier                         | For data refer to MIL-E-1/235A specification <sup>▲</sup>                                                                                                        |                            |                        |                           |                                          |                                                   |                            |                      |                             |                                 |                                  |                              | 5726/<br>6AL5-W/<br>6097 |      |
| 6.3         | 0.6           | 2 1/8                        | 3/4   | Relay and Grid-Controlled Rectifier Service | Maximum Ratings:<br>Peak Forward Anode Volts, 650<br>Peak Inverse Anode Volts, 1300<br>Fault Cathode Amp., 10<br>Peak Cathode Amp., 0.5<br>Av. Cathode Amp., 0.1 |                            |                        |                           |                                          |                                                   |                            |                      |                             |                                 |                                  |                              | 5727                     |      |
| 6.3         | 0.6           | 2 1/8                        | 3/4   | Control Service                             | For data refer to MIL-E-1/83B specification <sup>▲</sup>                                                                                                         |                            |                        |                           |                                          |                                                   |                            |                      |                             |                                 |                                  |                              | 5727/<br>2D21-W          |      |
| 6.3         | 0.3           | 2 1/8                        | 3/4   | Class A <sub>1</sub> Amplifier              | 300                                                                                                                                                              | 3.0                        | —                      | 0.6                       | 100<br>250                               | 68<br>68                                          | 100<br>100                 | 10.8<br>11           | 250000<br>1000000           | 4300<br>4400                    | —<br>—                           | —<br>—                       | 5749                     |      |
| 6.3         | 0.3           | 2 1/8                        | 3/4   | Class A <sub>1</sub> Amplifier              | For data refer to MIL-E-1/8 specification <sup>▲</sup>                                                                                                           |                            |                        |                           |                                          |                                                   |                            |                      |                             |                                 |                                  |                              | 5749/<br>6BA6-W          |      |
| 6.3         | 0.3           | 2 5/16                       | 7/8   | Converter Service<br>Separate<br>Excitation | 300                                                                                                                                                              | 1.0                        | 14                     | 1.0                       | 100                                      | —                                                 | 100                        | 2.6                  | 400000                      | Osc. Grid Volts (rms.), 10      |                                  | 5750                         |                          |      |
| 6.3<br>12.6 | 0.35<br>0.175 | 2 5/16                       | 7/8   | Class A <sub>1</sub> Amplifier<br>Each Unit | For data refer to MIL-E-1/10A specification <sup>▲</sup>                                                                                                         |                            |                        |                           |                                          |                                                   |                            |                      |                             |                                 |                                  |                              | 5751                     |      |
| 6.3<br>12.6 | 0.35<br>0.175 | 2 5/16                       | 7/8   | Class A <sub>1</sub> Amplifier<br>Each Unit | For data refer to MIL-E-1/237 specification <sup>▲</sup>                                                                                                         |                            |                        |                           |                                          |                                                   |                            |                      |                             |                                 |                                  |                              | 5751-WA                  |      |
| 6.3<br>12.6 | 0.35<br>0.175 | 2 5/16                       | 7/8   | Class A <sub>1</sub> Amplifier<br>Each Unit | For data refer to MIL-E-1/12A specification <sup>▲</sup>                                                                                                         |                            |                        |                           |                                          |                                                   |                            |                      |                             |                                 |                                  |                              | 5814-A                   |      |
| 6.3<br>12.6 | 0.35<br>0.175 | 2 5/16                       | 7/8   | Class A <sub>1</sub> Amplifier<br>Each Unit | For data refer to MIL-E-1/238A specification <sup>▲</sup>                                                                                                        |                            |                        |                           |                                          |                                                   |                            |                      |                             |                                 |                                  |                              | 5814-WA                  |      |
| 6.3         | 0.15          | 1 3/8†                       | 0.4   | Class A <sub>1</sub> Amplifier              | 165                                                                                                                                                              | 1.1                        | 16.5                   | 0.55                      | 100                                      | 150                                               | 100                        | 7.5                  | 260000                      | 5000                            | —                                | —                            | 5840                     |      |
| 6.3         | 0.3           | 1 3/8†                       | 0.4   | Full-Wave Rectifier                         | For data refer to MIL-E-1/174C specification <sup>▲</sup>                                                                                                        |                            |                        |                           |                                          |                                                   |                            |                      |                             |                                 |                                  |                              | 5896                     |      |
| 6.3         | 0.15          | 1 3/8†                       | 0.4   | Class A <sub>1</sub> Amplifier              | 165                                                                                                                                                              | 1.1                        | 16.5                   | 0.55                      | 100                                      | 120                                               | 100                        | 7.2                  | 260000                      | 4500                            | Grid-No. 1 Volts for Cutoff, —14 |                              | 5899                     |      |
| 6.3         | 0.45          | 1 3/4†                       | 0.4   | Class A <sub>1</sub> Amplifier              | 165                                                                                                                                                              | 4.0                        | 50                     | 1.0                       | 110                                      | 270                                               | 110                        | 30                   | 15000                       | 4200                            | Grid-No. 1 Volts for Cutoff, —40 |                              | 5902                     |      |
| 6.3         | 0.45          | 2 5/8                        | 3/4   | Class A <sub>1</sub> Amplifier              | 275                                                                                                                                                              | 11                         | —                      | 2.2                       | 180<br>250                               | — 8.5v<br>—12.5v                                  | 180<br>250                 | 29<br>45             | 58000<br>52000              | 3700<br>4100                    | —<br>—                           | 2<br>4.5                     | 6005                     |      |
| 6.3         | 0.45          | 2 5/8                        | 3/4   | Class A <sub>1</sub> Amplifier              | For data refer to MIL-E-1/13B specification <sup>▲</sup>                                                                                                         |                            |                        |                           |                                          |                                                   |                            |                      |                             |                                 |                                  |                              | 6005/<br>6AQ5-W          |      |
| 6.3         | 0.45          | 2 5/8                        | 3/4   | Class A <sub>1</sub> Amplifier              | For data refer to MIL-E-1/239 specification <sup>▲</sup>                                                                                                         |                            |                        |                           |                                          |                                                   |                            |                      |                             |                                 |                                  |                              | 6005/<br>6AQ5-W/<br>6095 |      |
| 6.3         | 0.3           | 1 3/4†                       | 0.4   | Class A <sub>1</sub> Amplifier<br>Each Unit | 165                                                                                                                                                              | 1.1                        | —                      | —                         | 100                                      | 150                                               | —                          | 6.5                  | 6500                        | 5400                            | 35                               | Grid Volts for Cut-off, —6.5 |                          | 6021 |

<sup>▲</sup> A copy of this specification may be obtained from the Director of the Armed Services Electro-Standards Agency (ASESA) at Fort Monmouth, New Jersey.

‡ Excluding flexible leads.

