6679/12AT7
HIGH-MU TWIN TRIODE
9-PIN MINIATURE TYPE

For use in mobile communications equipment

GENERAL DATA

Electrical:
Heater, for Unipotential Cathodes:

<table>
<thead>
<tr>
<th>Series</th>
<th>Parallel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage</td>
<td>12.6 ± 20%*</td>
</tr>
</tbody>
</table>
| Current:
  At 12.6 volts   | 0.15 amp    |              |
  At 6.3 volts    |              | 0.3 amp      |

Direct Interelectrode Capacitances (Approx.):

<table>
<thead>
<tr>
<th>Without External Shield</th>
<th>With External Shield</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grid-Drive Operation:</td>
<td></td>
</tr>
<tr>
<td>Grid to plate (Each unit)</td>
<td>1.5 μf</td>
</tr>
<tr>
<td>Grid to cathode and heater (Each unit)</td>
<td>2.2 μf</td>
</tr>
</tbody>
</table>
| Plate to cathode and heater:
  Unit No.1            | 0.5 μf               |
  Unit No.2            | 0.4 μf               |
| Cathode-Drive Operation:
  Plate to cathode (Each unit) | 0.2 μf               |
  Cathode to grid and heater (Each unit) | 4.6 μf               |
  Plate to grid and heater (Each unit) | 1.8 μf               |
  Heater to cathode (Each unit) | 2.4 μf               |

Characteristics, Class A1 Amplifier (Each Unit):

Heater Voltage:

<table>
<thead>
<tr>
<th>For series connection</th>
<th>12.6 volts</th>
</tr>
</thead>
<tbody>
<tr>
<td>For parallel connection</td>
<td>6.3 volts</td>
</tr>
</tbody>
</table>

Plate Supply Voltage | 250 volts |
Cathode Resistor | 200 Ωmhos |
Amplification Factor | 60 |
Plate Resistance (Approx.) | 10900 Ωmhos |
Transconductance | 5500 μmhos |
Plate Current | 10 ma |

Grid Voltage (Approx.) for plate μa = 10: -12 volts

Mechanical:

Operating Position: Any
Maximum Overall Length | 2-3/16"
Maximum Seated Length | 1-15/16"
Length, Base Seat to Bulb Top (Excluding tip) | 1-9/16" ± 3/32"
Diameter | 0.750" to 0.875"
Dimensional Outline: See General Section
Bulb | T6-1/2
Base | Small-Button Noval 9-Pin (JEDEC No. E9-1)
Basing Designation for BOTTOM VIEW ............ 9A
Pin 1-Plate of
Unit No.2
Pin 2-Grid of
Unit No.2
Pin 3-Cathode of
Unit No.2
Pins 4 & 9-Heater of
Unit No.2
Pins 5 & 9-Heater of
Unit No.1

Pin 6-Plate of
Unit No.1
Pin 7-Grid of
Unit No.1
Pin 8-Cathode of
Unit No.1
Pin 9-Heater
Mid-Tap

AMPLIFIER — Class A
Values are for Each Unit

Maximum Ratings, Design-Maximum Values:

PLATE VOLTAGE ....................... 330 max. volts
GRID VOLTAGE:
  Negative-bias value ............... 55 max. volts
  Positive-bias value .............. 0 max. volts
PLATE DISSIPATION ................. 2.8 max. watts
PEAK HEATER-CATHODE VOLTAGE:
  Heater negative with
  respect to cathode ............ 100 max. volts
  Heater positive with
  respect to cathode .......... 100 max. volts

* When the heater is operated from storage-battery-with-charger supply
  or similar supplies, the normal battery-voltage fluctuation may be as
  much as 35 per cent or more. Although such variation in heater voltage
  is permissible for short periods, reliability can be increased with
  improved supply-voltage regulation.

O With external shield JEDEC No.315 connected to heater except as noted.
• With external shield JEDEC No.315 connected to ground.

SPECIAL RATINGS & PERFORMANCE DATA

Heater-Cycling Life Performance:

This test is performed on a sample lot of tubes from each
production run. A minimum of 2000 cycles of intermittent
operation is applied under the following conditions: heater
voltage = 15 (Series connection) cycled one minute on and
one minute off, heater 135 volts positive with respect to
cathode, and all other elements connected to ground. At the
end of this test, tubes are checked for heater-cathode shorts
and open circuits.

Transconductance at Reduced Heater Voltage:

Average Value (Each unit) .................. 4400 μmhos

With heater volts = 10 (Series connection), plate supply volts
= 250, and cathode resistor (ohms) bypassed = 200