**MECHANICAL DATA**

- Bulb: T-5 ½
- Base: E7-1, Miniature Button 7-Pin
- Outline: 5-3
- Basing: 7CV
- Cathode: Coated Unipotential
- Mounting Position: Any

**ELECTRICAL DATA**

**HEATER CHARACTERISTICS**

<table>
<thead>
<tr>
<th>HEATER CHARACTERISTIC</th>
<th>6CA5</th>
<th>12CA5</th>
<th>17CA5</th>
<th>25CA5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heater Voltage</td>
<td>6.3</td>
<td>12.6</td>
<td>16.8</td>
<td>25.0</td>
</tr>
<tr>
<td>Heater Current</td>
<td>1200</td>
<td>600</td>
<td>540</td>
<td>300</td>
</tr>
<tr>
<td>Heater Warm-up Time&lt;sup&gt;1&lt;/sup&gt;</td>
<td>11</td>
<td>11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heater-Cathode Voltage</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Design Center Values)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Heater Negative with Respect | | | | | to Cathode
| Total DC and Peak | 200 | 200   | 200   | 200   |
| Heater Positive with Respect | | | | | to Cathode
| DC                     | 100  | 100   | 100   | 100   |
| Total DC and Peak     | 200  | 200   | 200   | 200   |

**DIRECT INTERELECTRODE CAPACITANCES (Unshielded)**

- Grid No. 1 to Plate: 0.5 μF
- Input: 15 μF
- Output: 9.0 μF

**RATINGS (Design Center Values)**

- Plate Voltage: 130 Volts Max.
- Grid No. 2 Voltage: 130 Volts Max.
- Positive Grid No. 1 Voltage: 0 Volts Max.
- Plate Dissipation: 5.0 Watts Max.
- Grid No. 2 Dissipation: 1.4 Watts Max.
- Grid No. 1 Circuit Resistance: 0.1 Megohm Max.
- Cathode Bias: 0.5 Megohm Max.
- Bulb Temperature at Hottest Point: 180° C

**CHARACTERISTICS AND TYPICAL OPERATION**

- Class A<sub>1</sub> Amplifier
- Plate Voltage: 110 → 125 Volts
- Grid No. 2 Voltage: 110 → 125 Volts
- Grid No. 1 Voltage: -4.0 → -4.5 Volts
- Peak AF Grid No. 1 Voltage: 4.0 → 4.5 Volts
- Zero-Signal Plate Current: 32 → 37 Ma
- Maximum-Signal Plate Current: 31 → 36 Ma
- Zero-Signal Grid No. 2 Current: 3.5 → 4.0 Ma
- Maximum-Signal Grid No. 2 Current: 7.5 → 11 Ma
- Transconductance: 8100 → 9200 μmhos
- Plate Resistance (Approx.): 16,000 → 15,000 Ohms
- Load Resistance: 3500 → 4500 Ohms
- Maximum-Signal Power Output: 1.1 → 1.5 Watts
- Total Harmonic Distortion (Approx.): 5 → 6 Percent

**NOTE:**

1. Heater warm-up time is defined as the time required for the voltage across the heater to reach 80% of the rated heater voltage after applying four (4) times rated heater voltage to a circuit consisting of the tube heater in series with a resistance equal to three (3) times the rated heater voltage divided by the rated heater current.

**QUICK REFERENCE DATA**

The Sylvania Types 6CA5, 12CA5, 17CA5, and 25CA5 are miniature beam power pentodes designed for service as audio output amplifiers. They feature high power sensitivity at relatively low plate and screen voltages.

Types 12CA5 and 17CA5 have controlled heater warm-up time for series string operation.
AVERAGE PLATE CHARACTERISTICS

\[ E_f = \text{RATED VALUE} \]
\[ E_{C2} = 125 \text{ VOLTS} \]

CURRENT IN MILLIAMPERES

0  50  100  150  200  250

PLATE VOLTAGE
AVERAGE PLATE CHARACTERISTICS

$E_f = \text{RATED VALUE}$

$E_{CI} = 0 \text{ VOLTS}$

$E_{C2} = 125 \text{ VOLTS}$

CURRENT IN MILLIAMPERES

PLATE VOLTAGE

0

25

50

75

100

110

100

75

50
AVERAGE TRANSFER CHARACTERISTICS

\[ E_f = \text{RATED VALUE} \]
\[ E_b = 125 \text{ VOLTS} \]
AVERAGE TRANSFER CHARACTERISTICS

$E_f = \text{RATED VALUE}$

$E_b = 125 \text{ VOLTS}$

GRID VOLTAGE

CURRENT IN MILLIAMPERES

-10  -8  -6  -4  -2  0

-10  -8  -6  -4  -2  0

CURVE 125 VOLTS

CURVE 100

CURVE 75

CURVE 50

CURVE 25
AVG. OPERATION CHARACTERISTICS

- $E_f =$ Rated Value
- $E_b, E_{C2} =$ 125 Volts
- $E_{C1} =$ -4.5 Volts
- $E_{SIG}$ = 4.5 Volts (Peak)

Maximum-Signal Current in Milliamperes
Total Harmonic Distortion in Percent
Power Output in Watts
Screen Current

PLATE CURRENT
POWER OUTPUT
DISTORTION

LOAD RESISTANCE IN OHMS
AVERAGE OPERATION CHARACTERISTICS

\[ E_f = \text{RATED VALUE} \]
\[ E_b = 110 \text{ VOLTS} \]
\[ E_{c2} = 110 \text{ VOLTS} \]
\[ E_{c1} = -4.0 \text{ VOLTS} \]
\[ E_{\text{SIG}} = 4.0 \text{ VOLTS (PEAK)} \]