The 6H28 is a 9-pin, T-9 tube containing a high-mu triode and a sharp-cutoff pentode. The triode is intended for use as a voltage amplifier or sync separator, and the pentode is intended for video amplifier service.

**GENERAL**

**ELECTRICAL**

Cathode—Coated Unipotential

Heater Characteristics and Ratings

Heater Voltage, AC or DC* .................................. 6.3 ± 0.6 Volts
Heater Current† .................................................. 1.125 Amperes
Direct Inter electrode Capacitances‡

Pentode Section
Grid-Number 1 to Plate: (Pg1 to 0) Max. 0.1 pf
Input: Pg1 to (h + k + Pg2 + Pg3 + i.s.) 12 pf
Output: 0 to (h + k + Pg2 + Pg3 + i.s.) 5.0 pf

Triode Section
Grid to Plate: (Tg to 0) Max. 5.0 pf
Input: Tg to (h + Tg) Max. 3.8 pf
Output: Tp to (h + Tg) Max. 0.4 pf

Pentode Grid-Number 1 to Triode Plate:
(Pg1 to 0) Max. 0.005 pf
Triode Grid to Pentode Plate:
(Tg to 0) Max. 0.04 pf
Pentode Plate to Triode Plate:
(0 to 0) Max. 0.2 pf

**MECHANICAL**

Operating Position—Any
Envelope—T-9, Glass
Base—E9-82, Small Button 9-Pin
Outline Drawing—EIA 9-77

Maximum Diameter ........................................... 1.188 Inches
Maximum Over-all Length ................................... 2.990 Inches
Maximum Seated Height ...................................... 2.710 Inches

**MAXIMUM RATINGS**

**DESIGN-MAXIMUM VALUES**

<table>
<thead>
<tr>
<th>Pentode</th>
<th>Triode</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plate Voltage</td>
<td>.330</td>
</tr>
<tr>
<td>Screen Supply Voltage</td>
<td>.330</td>
</tr>
<tr>
<td>Screen Voltage—See Screen Rating Chart</td>
<td></td>
</tr>
</tbody>
</table>

| Positive DC Grid-Number 1 Voltage | 0 Volts |
| Plate Dissipation | .8.0 Watts |
| Screen Dissipation | .2.0 Watts |

**TERMINAL CONNECTIONS**

Pin 1—Triode Cathode
Pin 2—Triode Grid
Pin 3—Triode Plate
Pin 4—Heater
Pin 5—Heater
Pin 6—Pentode Cathode, Grid Number 3, and Internal Shield
Pin 7—Pentode Grid Number 1
Pin 8—Pentode Grid Number 2 (Screen)
Pin 9—Pentode Plate

**PHYSICAL DIMENSIONS**

<table>
<thead>
<tr>
<th>Physical Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.188&quot; MAX.</td>
</tr>
<tr>
<td>2.990&quot; MAX.</td>
</tr>
<tr>
<td>2.400&quot; 2.710&quot; MAX.</td>
</tr>
</tbody>
</table>

**BASED DIAGRAM**

- Pin 1
- Pin 2
- Pin 3
- Pin 4
- Pin 5
- Pin 6
- Pin 7
- Pin 8
- Pin 9

EIA 9-77
MAXIMUM RATINGS (CONT’D)

Design-Maximum ratings are limiting values of operating and environmental conditions applicable to a bogy electron tube of a specified type as defined by its published data and should not be exceeded under the worst probable conditions. The tube manufacturer chooses these values to provide acceptable serviceability of the tube, making allowance for the effects of changes in operating conditions due to variations in the characteristics of the tube under consideration.

The equipment manufacturer should design so that initially and throughout life no design-maximum value for the intended service is exceeded with a bogy tube under the worst probable operating conditions with respect to supply-voltage variation, equipment component variation, equipment control adjustment, load variation, signal variation, environmental conditions, and variations in the characteristics of all other electron devices in the equipment.

CHARACTERISTICS AND TYPICAL OPERATION

CLASS A1 AMPLIFIER

<table>
<thead>
<tr>
<th></th>
<th>Pentode Section</th>
<th>Triode Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plate Voltage</td>
<td>60</td>
<td>200</td>
</tr>
<tr>
<td>Screen Voltage</td>
<td>170</td>
<td>170</td>
</tr>
<tr>
<td>Grid-Number 1 Voltage</td>
<td>0</td>
<td>-2.0</td>
</tr>
<tr>
<td>Cathode-Bias Resistor</td>
<td>100</td>
<td>Ohms</td>
</tr>
<tr>
<td>Amplification Factor</td>
<td></td>
<td>70</td>
</tr>
<tr>
<td>Plate Resistance, approx.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transconductance</td>
<td>140000</td>
<td></td>
</tr>
<tr>
<td>Plate Current</td>
<td>90</td>
<td>29</td>
</tr>
<tr>
<td>Screen Current</td>
<td>22.5</td>
<td>3.5</td>
</tr>
<tr>
<td>Grid-Number 1 Voltage, approximate</td>
<td>-11.5</td>
<td>-5 Volts</td>
</tr>
</tbody>
</table>

1b = 10 Microamperes

NOTES

* The equipment designer should design the equipment so that heater voltage is centered at the specified bogey value, with heater supply variations restricted to maintain heater voltage within the specified tolerance.
† Heater current of a bogy tube at Ef = 6.3 volts.
‡ Without external shield.

The tubes and arrangements disclosed herein may be covered by patents of General Electric Company or others. Neither the disclosure of any information herein nor the sale of tubes by General Electric Company conveys any license under patent claims covering combinations of tubes with other devices or elements. In the absence of an express written agreement to the contrary, General Electric Company assumes no liability for patent infringement arising out of any use of the tubes with other devices or elements by any purchaser of tubes or others.

SCREEN RATING CHART

PENTODE SECTION
AVERAGE TRANSFER CHARACTERISTICS

PENTODE SECTION

\[ E_t = \text{RATED VALUE} \]
\[ E_b = 250 \text{ VOLTS} \]

AVERAGE PLATE CHARACTERISTICS

TRIODE SECTION

\[ E_t = \text{RATED VALUE} \]