Compactron
Dissimilar Double Pentode

The 6BW11 is a compactron containing two dissimilar sharp-cutoff pentodes. Section 1 is a medium performance video amplifier useful for reference frequency or first video amplifier applications in color television receivers. It has characteristics similar to the 6AU8 pentode. Section 2 features a high transconductance and is useful for bandpass amplifier, burst amplifier, sound IF or video IF applications in color television receivers. It is generally equivalent to the 6BW6.

GENERAL

**ELECTRICAL**

Cathode - Coated Unipotential

Heater Characteristics and Ratings
Heater Voltage, AC or DC*: 6.3±0.6 Volts
Heater Current+: 0.8 Amperes
Direct Interelectrode Capacitances:

**Section 1**
Grid-Number 1 to Plate: (1g1 to 1p) 0.03 pf
Input: 1g1 to (h + 1k + 1g2 + 1g3 + 2g3 + i.s.) 7.5 pf
Output: 1p to (h + 1k + 1g2 + 1g3 + 2g3 + i.s.) 2.8 pf

**Section 2**
Grid-Number 1 to Plate: (2g1 to 2p) 0.03 pf
Input: 2g1 to (h + 2k + 2g2 + 2g3 + 1g3 + i.s.) 12 pf
Output: 2p to (h + 2k + 2g2 + 2g3 + 1g3 + i.s.) 2.8 pf

**Coupling**
Cathode, Section 1 to Cathode,
Section 2: (1k to 2k), maximum: 0.003 pf
Grid-Number 1, Section 1 to Plate,
Section 2: (1g1 to 2p), maximum: 0.004 pf
Grid-Number 1, Section 2 to Plate,
Section 1: (2g1 to 1p), maximum: 0.003 pf
Plate, Section 1 to Plate,
Section 2: (1p to 2p), maximum: 0.018 pf

**MECHANICAL**

Operating Position - Any
Envelope - T-9, Glass
Base - E12-70, Button 12-Pin
Outline Drawing - EIA 9-58

Maximum Diameter: 1.188 Inches
Minimum Diameter: 1.062 Inches
Maximum Over-all Length: 2.375 Inches
Maximum Seated Height: 2.000 Inches
Minimum Seated Height: 1.750 Inches

**PHYSICAL DIMENSIONS**

1.188" MAX. 1.062" MIN.
2.000" MAX. 1.750" MIN.
2.375" MAX.

**TERMINAL CONNECTIONS**

Pin 1 - Heater
Pin 2 - Cathode (Section 2)
Pin 3 - Grid Number 1 (Section 2)
Pin 4 - Grid Number 2 (Screen)
Pin 5 - Plate (Section 2)
Pin 6 - Grid Number 3 (Suppressor) and Internal Shield
Pin 7 - Grid Number 3 (Suppressor) and Internal Shield
Pin 8 - Plate (Section 1)
Pin 9 - Grid Number 2 (Screen)
Pin 10 - Cathode (Section 1)
Pin 11 - Grid Number 1 (Section 1)
Pin 12 - Heater

**BASING DIAGRAM**

EIA 12HD
### MAXIMUM RATINGS

<table>
<thead>
<tr>
<th>DESIGN-MAXIMUM VALUES</th>
<th>Section 1</th>
<th>Section 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plate Voltage</td>
<td>330</td>
<td>330</td>
</tr>
<tr>
<td>Screen Supply Voltage</td>
<td>330</td>
<td>330</td>
</tr>
<tr>
<td>Screen Voltage - See Screen Rating Chart</td>
<td>.0 .0</td>
<td>.0 .0</td>
</tr>
<tr>
<td>Positive DC Grid-Number 1 Voltage</td>
<td>.4 .31</td>
<td>.0 .65</td>
</tr>
<tr>
<td>Plate Dissipation</td>
<td>.8 .65</td>
<td>.8 .65</td>
</tr>
<tr>
<td>Screen Dissipation</td>
<td>.8 .65</td>
<td>.8 .65</td>
</tr>
<tr>
<td>Heater-Cathode Voltage</td>
<td>.100 .100</td>
<td>.100 .100</td>
</tr>
<tr>
<td>DC Component</td>
<td>.200</td>
<td>.200</td>
</tr>
<tr>
<td>Heater Negative with Respect to Cathode</td>
<td>.200 .200</td>
<td>.200 .200</td>
</tr>
<tr>
<td>Total DC and Peak</td>
<td>.200</td>
<td>.200</td>
</tr>
<tr>
<td>Grid-Number 1 Circuit Resistance</td>
<td>.025 .025</td>
<td>.025 .025</td>
</tr>
<tr>
<td>With Cathode Bias</td>
<td>.025</td>
<td>.025</td>
</tr>
</tbody>
</table>

Design-Maximum ratings are limiting values of operating and environmental conditions applicable to a bogey 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 bogey 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

<table>
<thead>
<tr>
<th>AVERAGE CHARACTERISTICS</th>
<th>Section 1</th>
<th>Section 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plate Voltage</td>
<td>.125</td>
<td>.125</td>
</tr>
<tr>
<td>Suppressor, Connected to Cathode at Socket</td>
<td>.125 .125</td>
<td>.125 .125</td>
</tr>
<tr>
<td>Screen Voltage</td>
<td>.125</td>
<td>.125</td>
</tr>
<tr>
<td>Cathode-Bias Resistor</td>
<td>.56</td>
<td>.56</td>
</tr>
<tr>
<td>Plate Resistance, approximate</td>
<td>.0.12 .02</td>
<td>.0.2 .02</td>
</tr>
<tr>
<td>Transconductance</td>
<td>.8500</td>
<td>13000</td>
</tr>
<tr>
<td>Plate Current</td>
<td>.22</td>
<td>.11</td>
</tr>
<tr>
<td>Screen Current</td>
<td>.48</td>
<td>.38</td>
</tr>
<tr>
<td>Grid-Number 1 Voltage, approximate</td>
<td>-9.5 -9.5</td>
<td>-3 -3</td>
</tr>
<tr>
<td>Tb = 20 Microamperes</td>
<td>.</td>
<td>.</td>
</tr>
</tbody>
</table>

### 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 bogey tube at Ef = 6.3 volts.
* With external shield (EIA 309) connected to cathode of section under test unless otherwise indicated.
* With external shield (EIA 309) connected to ground.

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AVERAGE TRANSFER CHARACTERISTICS

SECTION 1

\[ E_f = \text{RATED VALUE} \]
\[ E_b = 125 \text{ VOLTS} \]
\[ E_c3 = 0 \text{ VOLTS} \]

GRID-NUMBER 1 VOLTAGE IN VOLTS

SCREEN CURRENT IN MILLIAMPERES

AUGUST 24, 1960

AVERAGE TRANSFER CHARACTERISTICS

SECTION 1

\[ E_f = \text{RATED VALUE} \]
\[ E_b = 125 \text{ VOLTS} \]
\[ E_c3 = 0 \text{ VOLTS} \]

GRID-NUMBER 1 VOLTAGE IN VOLTS

TRANSCONDUCTANCE IN MICROMOS

AUGUST 24, 1960
AVERAGE TRANSFER CHARACTERISTICS

SECTION 2

$E_f = $ RATED VALUE
$E_b = 125$ VOLTS
$E_c = 0$ VOLTS

GRID-NUMBER 1 VOLTAGE IN VOLTS

TRANSDUCERANCE IN MICROHMS

K-55611-7B335-11

AUGUST 24, 1956

TUBE DEPARTMENT
GENERAL ELECTRIC

Owensboro, Kentucky