6BF5
Description and Rating
BEAM POWER AMPLIFIER

GENERAL DESCRIPTION
Principal Application: The 6BF5 is a miniature beam-power amplifier designed for use in the audio output stage of television and broadcast receivers. The 6BF5 features high sensitivity and is capable of delivering relatively high power output at low plate and screen voltages. When connected as a triode, the 6BF5 may be used as a vertical-deflection amplifier in television receivers.

Cathode: Coated Unipotential
Heater Voltage (A-C or D-C): 6.3 Volts
Heater Current: 1.2 Amperes

TERMINAL CONNECTIONS
Pin 1 - Grid Number 1
Pin 2 - Cathode and Beam Plates
Pin 3 - Heater
Pin 4 - Heater
Pin 5 - Plate
Pin 6 - Grid Number 2 (Screen)
Pin 7 - Grid Number 1

ENVELOPE: T-5½ Glass
BASE: E7-1, Miniature Button 7-Pin
MOUNTING POSITION: Any

PHYSICAL DIMENSIONS

MAXIMUM RATINGS

DESIGN CENTER VALUES:
- Plate Voltage: 250 Volts
- Peak Positive Pulse Plate Voltage*: 700 Volts
- Screen Voltage: 250 Volts
- Plate Dissipation:
  - For Class A1 Amplifier Service: 5.0 Watts
  - For Vertical-Deflection Amplifier Service: 5.0 Watts
- Screen Dissipation: 1.25 Watts
- Heater-Cathode Voltage: 100 Volts
- Grid Number 1 Circuit Resistance
  - With Fixed Bias: 0.1 Megohm
  - With Cathode Bias: 0.5 Megohm
  - With Cathode Bias Resistor of 820 Ohms Minimum: 2.2 Megohms

CLASS A1 AMPLIFIER:
- Plate Voltage: 110 Volts
- Screen Voltage: 110 Volts
- Grid Number 1 Voltage: -7.5 Volts
- Peak A-F Grid Number 1 Voltage: 7.5 Volts
- Plate Resistance (Approx): 10000 Ohms
- Transconductance: 7500 Micromhos
- Zero-Signal Plate Current: 49 Milliamperes
- Maximum-Signal Plate Current: 50 Milliamperes
- Zero-Signal Screen Current: 4 Milliamperes
- Maximum-Signal Screen Current: 8.5 Milliamperes
- Load Resistance: 2500 Ohms
- Total Harmonic Distortion: 9 Per Cent
- Power Output: 1.9 Watts

CHARACTERISTICS AND TYPICAL OPERATION

BASING DIAGRAM

RMA 7BZ
BOTTOM VIEW
VERTICAL-DEFLECTION AMPLIFIER - TRIODE CONNECTION

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Value</th>
<th>Unit</th>
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</thead>
<tbody>
<tr>
<td>Plate Voltage</td>
<td>225</td>
<td>Volts</td>
</tr>
<tr>
<td>Cathode Bias Resistor</td>
<td>1200</td>
<td>Ohms</td>
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<tr>
<td>Grid Input Voltage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peak-to-Peak Sawtooth Component</td>
<td>40</td>
<td>Volts</td>
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<tr>
<td>Negative Peaking Component</td>
<td>56</td>
<td>Volts</td>
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<tr>
<td>Amplification Factor</td>
<td>6.7</td>
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<tr>
<td>Transconductance</td>
<td>4200</td>
<td>Micromhos</td>
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<tr>
<td>Plate Current</td>
<td>20</td>
<td>Milliamperes</td>
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<tr>
<td>Plate Output Voltage</td>
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<td></td>
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<tr>
<td>Peak Positive Pulse Component</td>
<td>500</td>
<td>Volts</td>
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<tr>
<td>Peak-to-Peak Sawtooth Component</td>
<td>140</td>
<td>Volts</td>
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<tr>
<td>Deflection Angle</td>
<td>53</td>
<td>Degrees</td>
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<tr>
<td>Picture Tube Anode Voltage</td>
<td>14</td>
<td>Kilovolts</td>
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<tr>
<td>Sweep Height (for 16-inch Picture Tube)</td>
<td>11½</td>
<td>Inches</td>
</tr>
</tbody>
</table>

* The duty cycle of the pulse voltage must not exceed 7% of one scanning cycle and the pulse duration must not exceed 1.2 milliseconds.

# With screen tied to plate

AVERAGE CHARACTERISTICS
PENTODE CONNECTION

![Graph showing average characteristics](image)