TWIN TRIODE
MINIATURE TYPE
COATED UNIPOTENTIAL CATHODE
HEATER
6.3 VOLTS 0.4 AMP.
AC OR DC
ANY MOUNTING POSITION

THE 6BS8 IS A 9-PIN MINIATURE TWIN TRIODE DESIGNED FOR USE AS A LOW-NOISE VHF AMPLIFIER IN CASCODE OPERATION. THIS TYPE HAS HIGH GAIN AND HIGH CASCODE TRANSCONDUCTANCE. IT IS DESIGNED FOR OPERATION WITH SECTION 2 (PINS 1, 2, AND 3) AS INPUT SECTION OF THE CASCODE CIRCUIT.

DIRECT INTERELEKTRODE CAPACITANCES
WITH EXTERNAL SHIELD #525

<table>
<thead>
<tr>
<th></th>
<th>UNIT 1</th>
<th>UNIT 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>GRID TO PLATE</td>
<td>1.15</td>
<td>1.15</td>
</tr>
<tr>
<td>PLATE TO CATHODE (MAX.)</td>
<td>0.15</td>
<td>0.15</td>
</tr>
<tr>
<td>HEATER TO CATHODE</td>
<td>2.60</td>
<td>2.6</td>
</tr>
<tr>
<td>INPUT</td>
<td>2.60</td>
<td></td>
</tr>
<tr>
<td>OUTPUT</td>
<td>1.2</td>
<td></td>
</tr>
<tr>
<td>PLATE OF UNIT 1 TO PLATE OF UNIT 2 (MAX.)</td>
<td>0.010</td>
<td>1</td>
</tr>
<tr>
<td>PLATE OF UNIT 2 TO PLATE AND GRID OF UNIT 1 (MAX.)</td>
<td>0.024</td>
<td>1</td>
</tr>
<tr>
<td>GROUNDED GRID OPERATION:</td>
<td>5.0</td>
<td>1</td>
</tr>
<tr>
<td>INPUT</td>
<td></td>
<td>2.2</td>
</tr>
<tr>
<td>OUTPUT</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

RATINGS
INTERPRETED ACCORDING TO DESIGN CENTER SYSTEM
CLASS A1 AMPLIFIER—EACH UNIT

HEATER VOLTAGE 6.3 VOLTS
MAXIMUM DC PLATE VOLTAGE 150 VOLTS
MAXIMUM DC CATHODE CURRENT 20 MA.
MAXIMUM PLATE DISSIPATION 2.0 WATTS
MAXIMUM PEAK HEATER—CATHODE VOLTAGE:
HEATER POSITIVE WITH RESPECT TO CATHODE 200 VOLTS
HEATER NEGATIVE WITH RESPECT TO CATHODE 200 VOLTS
MAXIMUM CIRCUIT VALUES: (EACH UNIT)
GRID CIRCUIT RESISTANCE 0.5 MEGOHM

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

HEATER VOLTAGE 6.3 VOLTS
HEATER CURRENT 0.4 AMPERE
PLATE VOLTAGE 150 VOLTS
CATHODE BIAS RESISTOR 220 OHMS
AMPLIFICATION FACTOR 36
PLATE RESISTANCE 5000 OHMS
PLATE CURRENT 10 MA.
GRID VOLTAGE (APPROX.) FOR IB = 10 MA -7 (SEC. 2 ONLY) VOLTS
TRANSCONDUCTANCE 7200 UMHRS

CONTINUED ON FOLLOWING PAGE
**TYPICAL CASCODE CONDITIONS AND CHARACTERISTICS**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Heater Voltage</td>
<td>6.3</td>
</tr>
<tr>
<td>Heater Current</td>
<td>0.4</td>
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<tr>
<td>Plate Supply Voltage</td>
<td>250</td>
</tr>
<tr>
<td>Grid Voltage</td>
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</tr>
<tr>
<td>Plate Current</td>
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</tr>
<tr>
<td>Grid Voltage (approx.) for $g_m = 50$ $\mu$mhos</td>
<td>-6</td>
</tr>
<tr>
<td>Transconductance</td>
<td>10 000</td>
</tr>
</tbody>
</table>

→ Indicates a change.