from JETEC release

#1952, May 27, 1957

VERTICAL DEFLECTION AMPLIFIER

The 6EF6 is a beam power pentode designed primarily for application as a vertical deflection amplifier in wide angle television receivers. Types 9EF6 and 12EF6 are identical to the 6EF6 except that they are designed for series heater operation and therefore, both the 9EF6 and the 12EF6 incorporate heater warm-up control characteristics to minimize surges during the warm-up cycle.

MECHANICAL DATA

Coated unipotential cathode
Base: Intermediate-shell octal
Outline drawing
Maximum diameter
Maximum overall length
Maximum seated height
Base pin connections
  Pin 1 - No connection
  Pin 2 - Heater
  Pin 3 - Plate
  Pin 4 - Grid #2
  Pin 5 - Grid #1
  Pin 7 - Heater
  Pin 8 - Cathode, grid #3

Bulb T-9
JETEC B7-7 or B6-81 or B7-59 or 36-84
JETEC 9-13 or 9-42
1-9/32"
3-3/8"
2-13/16"
Basing, JETEC 78

ELECTRICAL DATA

Heater Characteristics

<table>
<thead>
<tr>
<th></th>
<th>6EF6</th>
<th>9EF6</th>
<th>12EF6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heater voltage</td>
<td>6.3</td>
<td>9.4</td>
<td>12.6 volts</td>
</tr>
<tr>
<td>Heater current</td>
<td>0.9</td>
<td>0.6</td>
<td>0.45 amps</td>
</tr>
<tr>
<td>Warm-up time (approx.)</td>
<td>11</td>
<td>11 secs.</td>
<td></td>
</tr>
</tbody>
</table>

Interelectrode capacitances (no external shield)

- Grid #1 to plate: 0.8 uuf
- Grid #1 to cathode grid #3, grid #2, heater: 11.5 uuf
- Plate to cathode grid #3, grid #2, heater: 9.0 uuf

TENTATIVE
RATINGS - DESIGN CENTER SYSTEM

Vertical deflection amplifier - pentode connected

Maximum heater - cathode voltage
Heater positive with respect to cathode
Total DC and peak DC
200 volts
100 volts
Heater negative with respect to cathode
Total DC and peak
200 volts
250 volts
Maximum plate voltage
Maximum grid #2 voltage
** Maximum peak positive pulse plate voltage (abs. max.)
2000 volts
Maximum plate dissipation
10 watts
Maximum peak negative pulse grid #1 voltage
250 volts
Maximum grid #2 dissipation
2.0 watts
Maximum average cathode current
60 ma.
180 ma.
Maximum peak cathode current
* Maximum grid #1 circuit resistance (Rk=100 ohm minimum)
2.2 megohms

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

<table>
<thead>
<tr>
<th></th>
<th>6E6</th>
<th>8E6</th>
<th>12E6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heater voltage</td>
<td>6.3</td>
<td>9.4</td>
<td>12.6</td>
</tr>
<tr>
<td>Plate voltage</td>
<td>---</td>
<td>11</td>
<td>11 s</td>
</tr>
<tr>
<td>Grid #2 voltage</td>
<td></td>
<td></td>
<td>250</td>
</tr>
<tr>
<td>Grid #1 voltage</td>
<td></td>
<td></td>
<td>250</td>
</tr>
<tr>
<td>Plate current</td>
<td></td>
<td></td>
<td>-18</td>
</tr>
<tr>
<td>Grid #2 current</td>
<td></td>
<td></td>
<td>50 m</td>
</tr>
<tr>
<td>Transconductance</td>
<td></td>
<td></td>
<td>2 m</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5000 umhos</td>
</tr>
<tr>
<td>Grid #1 voltage (approx.) for Ib = 1 milliampere</td>
<td></td>
<td></td>
<td>-40 volts</td>
</tr>
</tbody>
</table>

*** Plate current for Eb=75 V, Ec2=250 V, Ecl=0
170 mAns.

*** Screen current - Eb=75 V, Ec2=250 V, Ecl=0
17 ma.

* In the case of grid resistor bias some protection is necessary for the tube
in the no drive conditions.

** The duration of the voltage pulse must not exceed 15% of one scanning system
which is 2.5 milliseconds in a 525 line, 30 frame system.

*** Instantaneous values.