DOUBLE-DIODE TRIODE
MINIATURE TYPE

COATED UNIPOTENTIAL CATHODE
VOLTAGE AMPLIFIER
AND DETECTOR

ANY MOUNTING POSITION

THE 6BF6 IS A COMBINED LOW-MU VOLTAGE AMPLIFIER AND DOUBLE DIODE DETECTOR USING THE 7 PIN MINIATURE CONSTRUCTION. THE LOW AMPLIFICATION FACTOR OF THE TRIODE PERMITS LARGE VALUES OF OUTPUT SIGNAL WITH LOW DISTORTION.

DIRECT INTERELECTRODE CAPACITANCES

<table>
<thead>
<tr>
<th>TRIODE SECTION:</th>
<th>WITHOUT SHIELD</th>
<th>WITH SHIELD</th>
</tr>
</thead>
<tbody>
<tr>
<td>GRID TO PLATE: (G TO TP)</td>
<td>1.9 pf</td>
<td>1.9 pf</td>
</tr>
<tr>
<td>INPUT: G TO (H+K)</td>
<td>1.8 pf</td>
<td>1.9 pf</td>
</tr>
<tr>
<td>OUTPUT: TP TO (H+K)</td>
<td>0.7 pf</td>
<td>1.2 pf</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DIODE SECTION:</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>#1 DIODE PLATE TO GRID: (10P TO G) MAX.</td>
<td>0.07 pf</td>
<td>0.06 pf</td>
</tr>
<tr>
<td>#2 DIODE PLATE TO GRID: (20P TO G) MAX.</td>
<td>0.06 pf</td>
<td>0.05 pf</td>
</tr>
<tr>
<td>#2 DIODE PLATE TO HEATER AND CATHODE</td>
<td>0.95 pf</td>
<td></td>
</tr>
<tr>
<td>#4 DIODE PLATE TO HEATER AND CATHODE</td>
<td>0.66 pf</td>
<td></td>
</tr>
</tbody>
</table>

HEATER CHARACTERISTICS AND RATINGS

AVERAGE CHARACTERISTICS 6.3 VOLTS 300 MA.

HEATER SUPPLY LIMITS:
VOLTAGE OPERATION 6.3±0.6 VOLTS
CURRENT OPERATION 300±20 MA.

MAXIMUM PEAK HEATER-CATHODE VOLTAGE:
HEATER NEGATIVE WITH RESPECT TO CATHODE 90 VOLTS
HEATER POSITIVE WITH RESPECT TO CATHODE 90 VOLTS

A EXTERNAL SHIELD 316 CONNECTED TO PIN #2.

 indicaTS A CHANGE.

CONTINUED ON FOLLOWING PAGE.
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CONTINUED FROM PRECEDING PAGE

MAXIMUM RATINGS
DESIGN CENTER VALUES - SEE ETA STANDARD RS-239

PLATE VOLTAGE 300 VOLTS
PLATE DISSIPATION 2.5 WATTS
AVERAGE DIODE CURRENT EACH UNIT FOR 1.0 MA.
CONTINUOUS OPERATION

TYPICAL OPERATING CHARACTERISTICS
CLASS A1 AMPLIFIER

PLATE VOLTAGE 250 VOLTS
GRID VOLTAGE -9 VOLTS
PLATE RESISTANCE 8500 OHMS
TRANSCONDUCTANCE 1900 4MICROS
AMPLIFICATION FACTOR 16
PLATE CURRENT 9.5 MA.
LOAD RESISTANCE 10000 OHMS
TOTAL HARMONIC DISTORTION 6.5 PERCENT
POWER OUTPUT 300 MW.
DIODE CURRENT EACH PLATE WITH 10 VOLTS DC APPLIED (MIN.) 0.8 MA.
6BF6

TRIODE UNIT

$E_f = 6.3\text{ Volts}$

$E_b = 250\text{ Volts}$

$\eta_m$, $r_p$, $\mu$

PLATE RESISTANCE ($r_p$) - KILOHMS

PLATE MILLIAMPERES

AMPLIFICATION FACTOR ($\mu$)

TRANSCONDUCTANCE ($g_m$) - MICROMHOS

DC VOLTS DEVELOPED BY DIODE

RECTIFIED MICROAMPERES

RMS SIGNAL INPUT = 30 Volts

0.1 Meg., 0.25 Meg., 1 Meg., 2 Meg.

LOAD RESISTOR = 2 Megohms

TUNG-SOL ELECTRIC INC., ELECTRON TUBE DIVISION, BLOOMFIELD, NEW JERSEY, U.S.A., AUGUST 1, 1961 PLATE #6236