TRIODE TETRODE
MINIATURE TYPE

COATED UNIPOTENTIAL CATHODE
HEATER
6.3±10% VOLTS 0.45 AMP.
AC OR DC
ANY MOUNTING POSITION

THE 6FH8 IS A MEDIUM-MU TRIODE AND A SHARP CUTOFF TETRODE IN THE 9 PIN MINIATURE CONSTRUCTION. IT IS DESIGNED FOR USE IN HARMONIC-GENERATOR APPLICATIONS, WITH THE TETRODE UNIT EMPLOYING THREE PLATES.

DIRECT INTERELECTRODE CAPACITANCES

**TRIODE UNIT:**
- GRID TO PLATE: 1.4 μμμf
- GRID TO CATHODE AND HEATER: 2.6 μμμf
- PLATE TO CATHODE AND HEATER: 1 μμμf

**TETRODE UNIT:**
- GRID #1 TO PLATE #1 (MAX.): 0.060 μμμf
- GRID #1 TO CATHODE, HEATER, GRID #2, PLATE #2 & #3: 4.5 μμμf
- PLATE #1 TO CATHODE, HEATER, GRID #2, PLATE #2 & #3: 1.4 μμμf

TETRODE GRID #1 TO TRIODE PLATE (MAX.): 0.35 μμμf
TETRODE PLATE #1 TO TRIODE PLATE (MAX.): 0.008 μμμf

A WITH EXTERNAL SHIELD #335 CONNECTED TO CATHODE.

**RATINGS**
INTERPRETED ACCORDING TO DESIGN MAXIMUM SYSTEM HARMONIC-GENERATOR SERVICE

<table>
<thead>
<tr>
<th>TRIOIDE UNIT</th>
<th>TETRODE UNIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEATER VOLTAGE</td>
<td>6.3±10% VOLTS</td>
</tr>
<tr>
<td>MAXIMUM PLATE VOLTAGE (MAX.)</td>
<td>275 VOLTS</td>
</tr>
<tr>
<td>MAXIMUM PLATE #1 VOLTAGE</td>
<td>275 VOLTS</td>
</tr>
<tr>
<td>MAXIMUM PLATE #2 VOLTAGE</td>
<td>200 VOLTS</td>
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<tr>
<td>MAXIMUM PLATE #3 VOLTAGE</td>
<td>200 VOLTS</td>
</tr>
<tr>
<td>MAXIMUM GRID #2 SUPPLY VOLTAGE</td>
<td>275 VOLTS</td>
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</tbody>
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CONTINUED ON FOLLOWING PAGE
RATINGS - cont’d.
INTERPRETED according to DESIGN MAXIMUM SYSTEM
HARMONIC-GENERATOR SERVICE

MAXIMUM GRID #2 (SCREEN-GRID) VOLTAGE
MAXIMUM GRID #1 (CONTROL-GRID) VOLTAGE:
- NEGATIVE-BIAS VALUE 40 40 VOLTS
- POSITIVE-BIAS VALUE 0 0 VOLTS
MAXIMUM PLATE DISSIPATION 1.7 --- WATTS
MAXIMUM PLATE #1 DISSIPATION 2.3 WATTS
MAXIMUM PLATE #2 DISSIPATION 0.5 WATT
MAXIMUM PLATE #3 DISSIPATION 0.3 WATT
MAXIMUM GRID #2 INPUT:
- FOR GRID #2 VOLTAGES UP TO 137.5 VOLTS 0.45 WATT
- FOR GRID #2 VOLTAGES BETWEEN 137.5 AND 275 VOLTS SEE RATING CHART
MAXIMUM CIRCUIT VALUES:
- GRID #1 CIRCUIT RESISTANCE: 0.5 0.5 MEGOHM
- FOR FIXED-BIAS OPERATION

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS
CHARACTERISTICS - CLASS A₂ AMPLIFIER

TRIODE UNIT
HEATER VOLTAGE 6.3±10% VOLTS
HEATER CURRENT 0.45 AMP.
PLATE VOLTAGE 100 VOLTS
GRID VOLTAGE -1 VOLT
AMPLIFICATION FACTOR 40
PLATE RESISTANCE (APPROX.) 7400 OHMS
TRANSCONDUCTANCE 5400 \(\mu\)MHOS
PLATE CURRENT 7.9 MA.
GRID VOLTAGE (APPROX.) FOR PLATE CURRENT OF 100 \(\mu\)A -7 VOLTS

TETRODE UNIT
WITH PLATE #2 & #3 CONNECTED TO CATHODE
PLATE #1 VOLTAGE 250 VOLTS
GRID #2 VOLTAGE 250 VOLTS
GRID #1 VOLTAGE -2 VOLTS
PLATE #1 RESISTANCE (APPROX.) 750 000 OHMS
TRANSCONDUCTANCE, GRID #1 TO PLATE #1 4400 \(\mu\)MHOS
PLATE #1 CURRENT 7.5 MA.
GRID #2 CURRENT 1.4 MA.
GRID #1 VOLTAGE (APPROX.) FOR PLATE #1 CURRENT OF 100 \(\mu\)A -7 VOLTS

HARMONIC-GENERATOR SERVICE

TYPICAL OPERATION WITH SEPARATE PLATE OPERATION
HEATER VOLTAGE 6.3±10% VOLTS
HEATER CURRENT 0.45 AMP.
PLATES #1, #2 & #3 VOLTAGE 100 VOLTS
GRID #2 VOLTAGE 50 VOLTS
GRID #1 VOLTAGE -1 VOLT
PLATE #1 CURRENT 1.6 MA.
PLATE #2 CURRENT 0.04 MA.
PLATE #3 CURRENT 0.04 MA.
GRID #2 CURRENT 0.3 MA.
TRANSCONDUCTANCE (APPROX.):
- GRID #1 TO PLATE #1 2500 \(\mu\)MHOS
- GRID #1 TO PLATE #2 70 \(\mu\)MHOS
- GRID #1 TO PLATE #3 70 \(\mu\)MHOS
This Curve Also Applies To Types In Which Grids #2 - #4 Are Connected Together Within The Tube

MAXIMUM OPERATING CONDITIONS

GRID #2 INPUT EXPRESSED AS % OF MAX GRID #2 INPUT RATING

GRID #2 VOLTAGE EXPRESSED AS % OF MAX GRID #2 SUPPLY VOLTAGE RATING

6FH8

E_f = 6.3 Volts

PLATE VOLTS

E_c = +10
E_c = +6
E_c = +4
E_c = +2
E_c = 0
E_c = -2
E_c = -4
E_c = -6
E_c = -8
E_c = -10
E_c = -12

PLATE (I_b) OR GRID (I_c) - MILLIAMPERES

PLATE - VOLTS

TUNG-SOL ELECTRIC INC., ELECTRON TUBE DIVISION, BLOOMFIELD, NEW JERSEY, U.S.A., MARCH 1, 1950 PLATE #5799
6FH8

$E_f = 6.3$ Volts
Plate #2 & #3 Connected to Cathode
$E_{c2} = 150$ Volts

Plate #1 Volts

Plate #1 or Grid #2 (Ic2) - Milliamperes

0 50 100 150 200 250 300

0 5 10 15 20 25

+0.5 0.0 0.5 -0.5 -1.0 -1.5 -2.0 2.0

-2.5 -3.0 -4.0

l_b

l_c

TENTATIVE DATA