SYLVANIA TYPE 7A8
OCTODE CONVERTER

MECHANICAL DATA
Bulb .................................................. T-9, Outline 9-30
Base .................................................... 8U
Mounting Position ................................. Any

ELECTRICAL DATA
HEATER CHARACTERISTICS
Heater Voltage ....................................... 6.3 Volts
Heater Current ........................................ 150 Ma
Maximum Heater-Cathode Voltage .............. 90 Volts

DIRECT INTERELECTRODE CAPACITANCES (Shielded)\(^1\)
Grid No. 4 to Plate .................................. 0.15 \(\mu\)F Max
Grid No. 4 to Grid No. 2 ............................. 0.3 \(\mu\)F Max
Grid No. 4 to Grid No. 1 ............................. 0.15 \(\mu\)F Max
Grid No. 1 to Grid No. 2 ............................. 0.60 \(\mu\)F
R.F. Input, Grid No. 4 to All ....................... 7.5 \(\mu\)F
Osc. Output, Grid No. 2 to All Except Grid No. 1 3.4 \(\mu\)F
Osc. Output, Grid No. 1 to All Except Grid No. 2 3.8 \(\mu\)F
Mixer Output, Plate to All .......................... 9.0 \(\mu\)F

MAXIMUM RATINGS (Design Center Values)
Plate Voltage ......................................... 300 Volts
Grids No. 3 and 5 Supply Voltage ............... 300 Volts
Grids No. 3 and 5 Voltage .......................... 100 Volts
Grid No. 2 Supply Voltage ......................... 300 Volts
Grid No. 2 Voltage .................................. 200 Volts
Plate Dissipation ..................................... 1.0 Watt
Grids No. 3 and 5 Dissipation ............... 0.3 Watt
Grid No. 2 Dissipation .............................. 0.75 Watt
Cathode Current ..................................... 13.0 Ma
Positive Grid No. 4 Voltage ....................... 0 Volts

TYPICAL OPERATION
Plate Voltage ......................................... 100 250 Volts
Grids No. 3 and 5 Voltage ......................... 75 100 Volts
Grid No. 4 Voltage (Signal Grid) ............... 3.0 3.0 Volts
Grid No. 2 Voltage (Osc. Anode) ............... 100 250 Volts
Grid No. 1 Resistor (Osc. Grid) ................. 50000 50000 Ohms
Plate Current ......................................... 1.8 3.0 Ma
Grids No. 3 and 5 Current ......................... 2.7 3.2 Ma
Grid No. 2 Current ................................. 2.8 4.2 Ma
Grid No. 1 Current ................................. 0.2 0.4 Ma
Self Bias Resistor .................................. 400 280 Ohms
Plate Resistance ..................................... 65 70 Megohms
Conversion Transconductance .................. 375 550 \(\mu\)mhos
Grid No. 4 Voltage for \(C_v = 2 \mu\)mhos ........ -22.5 -30 Volts

CHARACTERISTICS
Oscillator, Non-oscillating Condition\(^1\)
Grid No. 2 Current .................................. 10 Ma
Transconductance (Grid No. 1 to Grid No. 2) .... 1600 \(\mu\)mhos
Amplification Factor (Grid No. 1 to Grid No. 2) .. 65

NOTES:
1. Shield No. 308 connected to cathode.
2. Applied through 20,000 ohm resistor for \(E_{r2} = 250\) V.
3. Measurements taken with \(E_n = 250\) volts; \(E_{r2} = 180\) volts; \(E_{r3} = 100\) Volts; \(E_{r1} = 0\) volts.

APPLICATION
Sylvania Type 7A8 is a single-ended oscillator-mixer tube. The addition of a suppressor grid serves to increase the plate resistance for improved performance, particularly when operated at low plate supply voltages.

SYLVANIA TUBE TESTER SETTINGS

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<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
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