6J8-GA
TRIODE HEPTODE CONVERTER

GENERAL DATA

Electrical:

Heater, for Unipotential Cathode:
Voltage 6.3 a.c. or d.c. volts
Current 0.45 amp.

Direct Interelectrode Capacitances (With Standard Shield):
Heptode Grid No. 1 to Heptode Plate 0.01 max. μF
Heptode Grid No. 1 to Triode Grid & Heptode Grid No. 3 0.13 μF
Heptode Grid No. 1 to Triode Plate 0.015 μF
Triode Grid & Heptode Grid No. 3 to Triode Plate 2.2 μF
R.F. Input (Heptode Grid No. 1 to All Other Electrodes) 4.4 μF
Osc. Output (Triode Plate to All Other Electrodes) 5.5 μF
Osc. Input (Triode Grid & Heptode Grid No. 3 to All Other Electrodes) 11.7 μF
Mixer Output (Heptode Plate to All Other Electrodes) 8.8 μF

Mechanical:

Mounting Position Any
Maximum Overall Length 4-15/32"
Maximum Seated Height 3-29/32"
Maximum Diameter 1-9/16"
Bulb ST-12
Cap Skirted Miniature
Base Small Shell Octal 8-Pin
Basing Designation for BOTTOM VIEW GSH

Pin 1 - No Connection
Pin 2 - Heater Plate
Pin 3 - Heptode Plate
Pin 4 - Heptode Grids No. 2 & No. 4
Pin 5 - Heptode Grid No. 3 & Triode Grid
Pin 6 - Triode

CONVERTER

Maximum Ratings, Design-Centre Values:

Heptode Plate Voltage 300 max. volts
Heptode Screen (Grids No. 2 & No. 4) Voltage 100 max. volts
Heptode Screen Supply Voltage 300 max. volts
Heptode Control-Grid (Grid No. 1) Voltage 0 min. volts
Triode Plate Supply Voltage 250 max. volts
Heptode Plate Dissipation 0.9 max. watt
Heptode Screen Dissipation 0.4 max. watt
Triode Plate Dissipation 0.8 max. watt
Cathode Current 14.0 mA
Typical Operation:

- **Heptode Plate Voltage**: 100, 250 volts
- **Heptode Screen Voltage**: 100, 100 volts
- **Heptode Control-Grid Voltage**: -3, -3 volts
- **Triode Plate Voltage**: 100, 250 volts
- **Triode Grid Resistor**: 5000 ohms, 50000 ohms
- **Heptode Plate Resistance**: 0.9, 0.0 megalohms
- **Conversion Transconductance**: 250, 290 umhos
- **Heptode Control Grid Bias for Conver. Transcond. = 2 umhos**: -20, -20 volts
- **Heptode Plate Current**: 1.4, 1.3 mA
- **Heptode Screen Current**: 3.0, 2.9 mA
- **Triode Plate Current**: 3.0, 5.0 mA
- **Triode Grid & Heptode Grid No. 3 Current**: 0.3, 0.4 mA

**Triode Section**

- **Plate Voltage**: 100 volts
- **Grid Voltage**: 0 volts
- **Amplification Factor**: 17
- **Plate Resistance**: 10600 ohms
- **Transconductance**: 1600 umhos
- **Plate Current**: 7 mA

*Δ* Applied through a 20000 ohm dropping resistor.
RADIOTRON 6J8-G

$E_F = 6.3 \text{ V.}$
$E_P = 250 \text{ V.}$
$E_{G1} = -3 \text{ V.}$
$E_{G2,4} = 100 \text{ V.}$

OSC. PLATE FED FROM $\pm 250 \text{ V.}$ THROUGH
A $20,000 \Omega$ RESISTOR.
OSCILLATOR GRID RESISTOR = 50,000 $\Omega$.

NORMAL
OPERATING REGION:

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PLATE & CATHODE CURRENT

CONVERSION COND.

CATHODE CURRENT

PLATE CURRENT

OSCILLATOR GRID CURRENT MICROAMPS