7B8 Sylvania Type

HEPTODE CONVERTER
GT EQUIVALENT SAGT

PHYSICAL SPECIFICATIONS

Base ............... Lock-In 8 Pin Bulb ............... T9
Maximum Overall Length ............... 2 3/4" Maximum Seated Height ............... 2 1/2"
Mounting Position ............... Any

RATINGS

Heater Voltage AC or DC (Nominal) ............... 7.0 Volts
Heater Current (Nominal) ............... 0.32 Ampere
Maximum Plate Voltage ............... 300 Volts
Maximum Screen Voltage ............... 100 Volts
Maximum Anode Grid Voltage ............... 500 Volts
Maximum Anode Grid Supply ............... 500 Volts
Maximum Plate Dissipation ............... 0.1 Watt
Maximum Screen Dissipation ............... 0.3 Watt
Maximum Anode Grid Dissipation ............... 0.75 Watt
Maximum Cathode Current ............... 14 Ma.
Minimum Signal Grid Bias ............... 0 Volt
Maximum Heater-Cathode Voltage ............... 90 Volts

Direct Inter-electrode Capacitances: *

Grid G to Plate ............... 2 µf. Max.
Grid G to Grid Ga ............... 2 µf. Max.
Grid G to Grid Go ............... 2 µf. Max.
Grid Go to Grid Gs ............... 9 µf.
Grid G to all Electrodes (R-F Input) ............... 10.0 µf.
Grid Ga to all Electrodes except Go (Osc. Output) ............... 3.4 µf.
Grid Go to all Electrodes except Ga (Osc. Input) ............... 5.0 µf.
Plate to all Electrodes (Mixer Output) ............... 9.0 µf.

*With 1 1/2" diameter shield (RMA Std. M8-368) connected to cathode.

TYPICAL OPERATION

Heater Voltage ............... 6.3 Volt
Heater Current ............... 0.3 A
Plate Voltage ............... 250 Volts
Screen Voltage ............... 100 Volts
Anode Grid Voltage ............... 50000 Ohms
Anode Grid (G) Voltage ............... 250 Volts
Control Grid (G) Voltage ............... 50000 Ohms
Control Grid (G) Resistor ............... 3.5 Ma.
Screen Grid Current ............... 2.7 Ma.
Anode Grid Current ............... 2.0 Ma.
Oscillator Grid Current ............... 0.4 Ma.
Self-Bias Resistor ............... 360 Ohms
Plate Resistance ............... 0.36 Megohm
Conversion Conductance ............... 550 µmhos
Control Grid Voltage (Approximate)
For 3 µmhos Conversion Conductance ............... 35 Volts
For 3 µmhos Conversion Conductance ............... 20 Volts

The oscillator section, not oscillating, has a Gm of 1150 µmhos, a mu of
75 at an anode grid current of 4.0 ma, when Ep = 250 Volts; Ega = 100
Volts; Ego = 65 Volts; Ee = 2.0 Volts and Ego = -1.0 Volt.

APPLICATION

Sylvania Type 7B8 is a lock-in converter tube designed for use in AC or auto receivers. For AC-DC service, Type 14B8 with lower heater current rating will usually prove more satisfactory.

Electrically, Type 7B8 is similar to the older oscillator mixer tubes. Conventional circuits and design are readily adaptable for use with this compact rugged tube. As is usual with converter tubes, it is well to ascertain that the maximum cathode current does not exceed the rated limit under any encountered operating condition.

SYLVANIA RADIO TUBES