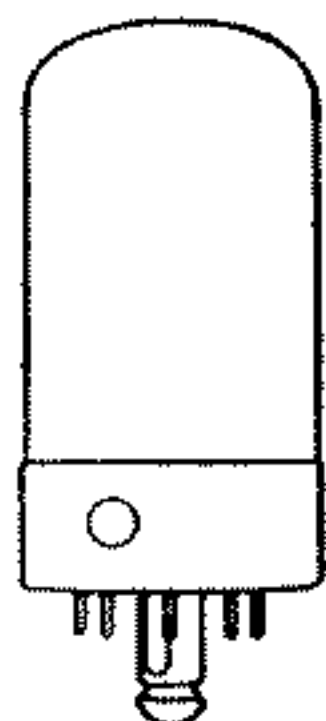


8AL-L-0



Sylvania Type 7Q7

HEPTODE CONVERTER
GT EQUIVALENT 6SA7GT

PHYSICAL SPECIFICATIONS

Base.....	Lock-In 8 Pin
Bulb.....	T-9
Maximum Overall Length.....	2 ²⁵ / ₃₂ "
Maximum Seated Height.....	2 ¹ / ₄ "
Mounting Position.....	Any

RATINGS

Heater Voltage (Nominal) AC or DC.....	7.0 Volts
Heater Current (Nominal).....	0.32 Ampere
Maximum Plate Voltage.....	300 Volts
Maximum Screen Voltage.....	100 Volts
Maximum Screen Supply Voltage.....	300 Volts
Maximum Plate Dissipation.....	1.0 Watt
Maximum Screen Dissipation.....	1.0 Watt
Maximum Total Cathode Current.....	14 Ma.
Minimum Signal-Grid External Bias Voltage (with self-excited oscillator).....	0 Volt
Maximum Heater-Cathode Voltage.....	90 Volts

Direct Interelectrode Capacitances:*

Grid G to Plate.....	0.20 μ mf. Max.
Grid G to G ₀	0.20 μ mf. Max.
Grid G ₀ to Plate.....	0.15 μ mf. Max.
Signal Input.....	9.0 μ mf.
Oscillator Input.....	7.0 μ mf.
Mixer Output.....	9.0 μ mf.
Grid G ₀ to All Except Cathode.....	5.0 μ mf.
Grid G ₀ to Cathode.....	2.2 μ mf.
Cathode to all Except G ₀	6.0 μ mf.

*With 1⁵/₁₆" diameter shield (RMA Std. M8-308) connected to cathode.

TYPICAL OPERATION CONVERTER (SEPARATELY EXCITED)

Heater-Voltage.....	6.3	6.3 Volts
Heater Current.....	0.3	0.3 Ampere
Plate Voltage.....	100	250 Volts
Screen Voltage.....	100	100 Volts
Control Grid Voltage** (G).....	-2	-2 Volts
Self-Bias Resistor.....	160	160 Ohms
Suppressor Grid and Shield Voltage.....	0	0 Volt
Oscillator Grid Resistor (G ₀).....	20000	20000 Ohms
Plate Resistance (Approximate).....	0.5	1.0 Megohm
Oscillator Grid Current.....	0.5	0.5 Ma.
Plate Current.....	3.3	3.5 Ma.
Screen Current (G _s).....	8.5	8.5 Ma.
Total Cathode Current.....	12.3	12.5 Ma.
Conversion Conductance at E _{c3} = -2.....	525	550 μ mhos
Conversion Conductance at E _{c3} = -6.....	275	300 μ mhos
Conversion Conductance at E _{c3} = -10.....	65	70 μ mhos
Conversion Conductance at E _{c3} = -35 (Approx.)... ..	2	2 μ mhos

**Characteristics for self excitation are similar to those given for separate excitation except the control grid (Grid G bias voltage is 0 volt).

Note: With Grid G_s connected to plate (100 volts) and signal applied to Grid G₀ (0 volt bias). the Mutual Conductance is 4500 μ mhos, plate current 27 Ma. amplification factor 13. Grid G is connected to ground during this test.

APPLICATION

Sylvania Type 7Q7 is a pentagrid converter having electrical characteristics quite similar to those for Type 6SA7. The Lock-In construction embodied in this type provides compactness, suitable shielding and the lock-in feature. For a-c service the 7-volt heater rating corresponds to a 130-volt line condition. It is also the nominal voltage for automotive receiver service. Ratings marked Max. and Min. are design centers for a line voltage of 117 volts. For automotive service the design centers are 90% of the values indicated, using a battery terminal voltage of 6.6 volts.

7Q7 (Cont.)

