The Svetlana™ 3CPX800A7 is a high performance ceramic/metal high-mu power triode designed for use in communications and industrial service. The principal use is for pulsed RF amplifier, pulse modulator, or regulator service. When operated as a pulse modulator, the Svetlana 3CPX800A7 will hold off a maximum plate voltage of 4500 volts. Maximum plate current is 8 amps at a pulse duration of 100 microseconds. The Svetlana 3CPX800A7 is a direct replacement for the model 3CPX800A7 manufactured in the United States.

**Characteristics**

**Electrical**
- **Cathode**: Oxide-coated unipotential
- **Heater Voltage (AC or DC)**: 13.5 ± 0.6 V
- **Heater Current @ 13.5V**: 1.5 A
- **Minimum warm-up time**: 3 min.
- **Amplification factor (average)**: 200
- **Maximum Frequency for Full Ratings**: 500 MHz
- **Interelectrode capacitances, with grid grounded**:
  - **Input**: 25.5 pF
  - **Output**: 6.1 pF
  - **Plate-Cathode**: 0.04 pF

**Mechanical**
- **Cooling**: Forced air
- **Base**: Large 11 pin wafer (EIA E11-81)
- **Socket**: 11 pin E.F. Johnson #124-311-100
- **Anode Connector**: Svetlana AC-1
- **Operating position**: Any
- **Maximum dimensions**:
  - **Diameter**: 64 mm (2.52 in.)
  - **Length**: 67 mm (2.63 in)
  - **Maximum operating temperature**: 250˚C
  - **Net weight (average)**: .341 kg (0.75 lb.)

**Maximum ratings, Pulse Modulator or Switch Tube Service**
- **DC plate voltage**: 4500 V
- **Maximum-signal DC plate current (Duty = 0.005)**: 8 A
- **Plate Dissipation**: 800 W
- **Grid Dissipation**: 4.0 W
- **DC grid current (average)**: 60 mA
Svetlana 3CPX800A7
High-Mu Power Triode

Typical Operation

Plate voltage 4500 V
Pulse plate current 5 A
Grid voltage -50 V
Pulse positive grid voltage 70 V
Pulse grid current 0.20 A
Pulse duration 10 µsec
Duty 0.005
Pulse driving power 25 W
Pulse output power 20 kW
Pulse output voltage 4 kV

Pulsed RF Amplifier, Cathode Driven, Class AB2 - Drive

Pulsed Maximum Ratings (to 500 MHz)

DC plate voltage 3500 V
Plate current (average) 0.6 A
Peak plate current (average during pulse) 2.5 A
Plate dissipation (average) 800 W
Grid current (average) 0.06 A
Grid dissipation (average) 4.0 W

Typical Operation

DC plate voltage 3500 V
DC cathode voltage +15 V
Zero signal plate current 20 mA
Pulse plate current 2.5 A
Pulse grid current 105 mA
RF cathode voltage 130** V
Cathode input impedance 30 ohms
Power output 6.0 kW
Duty 0.01
RF driving power 320** W
Resonant load impedance 660 Ohms

**Peak

Cooling Air at 25˚C

<table>
<thead>
<tr>
<th>Anode* Dissipation Watts</th>
<th>Sea Level</th>
<th>5,000 Feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Flow CFM</td>
<td>Pressure Drop Inches of Water</td>
<td>Air Flow CFM</td>
</tr>
<tr>
<td>400</td>
<td>6</td>
<td>0.09</td>
</tr>
<tr>
<td>600</td>
<td>11</td>
<td>0.20</td>
</tr>
<tr>
<td>800</td>
<td>19</td>
<td>0.50</td>
</tr>
</tbody>
</table>

Note: When cooling air inlet temperature is raised to 50˚C, flow rate must be increased approximately 40%.

Svetlana 3CPX800A7
Typical Constant Current Characteristics
Grounded Grid

- Plate Current - Amperes
- Grid Current - Amperes

-Graph showing typical constant current characteristics for grounded grid.