The Svetlana 3CX300A1 is a ceramic-metal forced-air-cooled power triode intended for use in high-end audio amplifier equipment requiring high power, low plate resistance and exceptional linearity. Ceramic-metal transmitting-tube construction gives the 3CX300A1 extreme ruggedness and freedom from microphonics. The large cathode and the grid are rigidly mounted on coaxial cones terminating in rugged ceramic-metal seals. The anode is machined from solid copper, to insure high power handling capability. The 3CX300A1 is suitable for single-ended Class A1 or push-pull Class A1 or AB1 operation. The Svetlana 3CX300A1 is manufactured at the Svetlana factory in St. Petersburg, Russia, using the same processes and materials as Svetlana’s large RF power tubes. Thus, quality and reliability are assured to strict transmitting-tube standards.

### General Characteristics

#### Electrical
- **Cathode**: Oxide-coated, unipotential
- **Voltage (AC or DC)**: 6.3 ± 0.3 V
- **Current**: 2.65 A
- **Heater-cathode voltage (max)**: ±100 Vpeak
- **Amplification factor**: 9
- **Transconductance**: 20,000 µS
- **Plate resistance**: 450 ohms
- **Interelectrode capacitances (typical), with cathode grounded**:
  - **Input**: 25 pF
  - **Output**: 1 pF
  - **Feedback**: 10 pF

#### Mechanical
- **Cooling**: Radiation and convection, or forced-air (see below)
- **Base**: Ceramic, special 8-pin with center contact
- **Socket**: Svetlana SK2A or equivalent
- **Anode connector**: Svetlana AC-5 or equivalent
- **Operating position**: Any (vertical for convection cooling)
  (Note: for operation at >30W dissipation, forced-air cooling is required—consult cooling data on reverse.)

#### Nominal dimensions:
- **Diameter**: 42 mm (1.656 in)
- **Base to top**: 52 mm (2.055 in)
- **Overall height**: 72 mm (2.836 in)
- **Net weight**: 200 gm

---

### Dimensional Data

<table>
<thead>
<tr>
<th>Dim.</th>
<th>Millimeters</th>
<th>Inches</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>52</td>
<td>2.055</td>
</tr>
<tr>
<td>B</td>
<td>42</td>
<td>1.656</td>
</tr>
</tbody>
</table>

---

### Base pin connections bottom view

---

---
**Svetlana 3CX300A1 Audio Power Triode**

**Maximum Ratings**
- DC plate voltage: 1800 V
- Maximum signal DC plate current: 470 mA
- Plate dissipation with forced-air cooling: 300 W
- Plate dissipation with convection cooling: 50 W
- Grid dissipation (maximum): 1 W
- Operating temperature (metal/ceramic seals or metal core): 250 °C
- Control grid maximum negative voltage: -400 V

**Typical Operation, Class A, Audio Amplifier (single tube)**
- Plate voltage: 500 V
- Grid voltage: -55 V
- Peak grid drive: 120 Vp-P
- Plate current, no signal: 80 mA
- Plate current, max signal: 95 mA
- Effective load resistance: 1600 ohms
- Distortion at 1 watt into 8 ohms: 0.67%
- Power output at 5% distortion: 15 W

**Typical Operation, Class AB1, Audio Power Amplifier, Push-Pull**
- Plate voltage: 500 V
- Grid voltage: -45 V
- Peak grid drive: 100 Vp-P
- Plate current, no signal (both tubes): 300 mA
- Load resistance, plate-to-plate: 2000 ohms
- Power output: 40 W

---

**Air Cooling Data**

The flow rate for base cooling must be determined for satisfactory cooling to obtain base temperature not more than 220°C.

If the temperature of ambient air will increase, air flow must be increased in accordance with Table 1.

**Table 1**

<table>
<thead>
<tr>
<th>Ambient Air Temperature, °C</th>
<th>25</th>
<th>40</th>
<th>55</th>
<th>70</th>
</tr>
</thead>
<tbody>
<tr>
<td>Correction Factor</td>
<td>1</td>
<td>1.2</td>
<td>1.5</td>
<td>1.9</td>
</tr>
</tbody>
</table>