

# SVETLANA TECHNICAL DATA

## Svetlana TH6-3 and TH6-3A Industrial Power Triodes



**T**he Svetlana™ TH6-3 and TH6-3A are high performance ceramic/metal power triodes designed for use in industrial service. Typical use is as a Class C high power oscillator for dielectric heating equipment.

The TH6-3 and the TH6-3A are identical in electrical characteristics. The difference in the TH6-3 and TH6-3A models is that the TH6-3A has a star flange which is welded to the grid ring for ease of mounting and connection. Reliability of the Svetlana manufactured tube is much higher because of its welded construction and solid copper grid mounting flange. These mechanical advantages provide improved thermal conductivity for optimum grid cooling and a more rugged assembly than the soft soldered bronze grid flange used in U.S. tubes.

The Svetlana TH6-3 and the TH6-3A are direct replacements for United States manufactured triodes of the same type.

### Characteristics

#### Electrical

Filament	Thoriated-tungsten mesh	
Voltage	7.5 ± 0.37 V	
Current @ 7.5 V	100	A
Amplification factor (average)	20	
Interelectrode capacitances (typical), with filament grounded:		
Input	53	pF
Output	1.5	pF
Feedback	34	pF

#### Mechanical

Cooling	Forced air	
Base	Coaxial	
Operating position	Vertical, base up or down	
Maximum dimensions:		
Length	261.88 mm (10.310 in.)	
Diameter	179.07 mm (7.050 in.)	
Maximum operating temperature	250° C	

#### Maximum ratings, CW

DC plate voltage	10,000	V
Maximum-signal DC plate current	4.0	A
Plate Dissipation	10	kW
Grid Dissipation	250	W

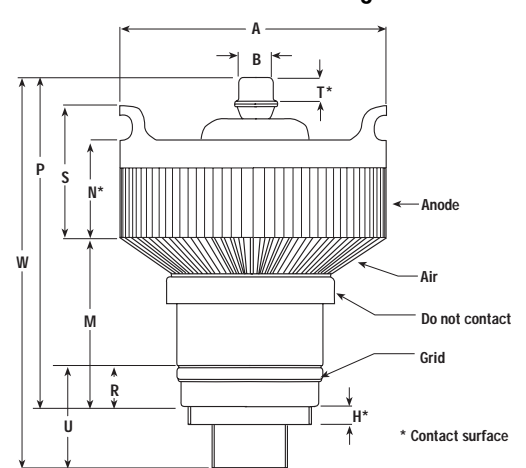
#### Typical Operation

DC plate voltage	7000	9000	V
Plate current	4.0	4.0	A
DC grid voltage	-620	-930	V
DC grid current*	0.275	0.43	A
Peak cathode RF voltage*	370	390	V
Driving power*	260	570	W
Plate Power output	19	29	kW

\*Approximate values

### Svetlana Outline drawing

#### TH6-3 Outline Drawing



#### Dimensional Data

Dim.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	175.97	179.07	6.928	7.050
B	21.72	22.73	0.855	0.895
H	11.43	—	0.45	—
M	100.33	109.22	3.950	4.300
N	61.26	70.82	2.412	2.788
P	209.55	222.25	8.250	8.750
R	25.04	26.67	0.986	1.050
S	86.66	96.22	3.412	3.788
T	9.53	—	0.375	—
U	—	66.68	—	2.625
W	259.20	261.88	10.008	10.310

#### TH6-3A Outline Drawing

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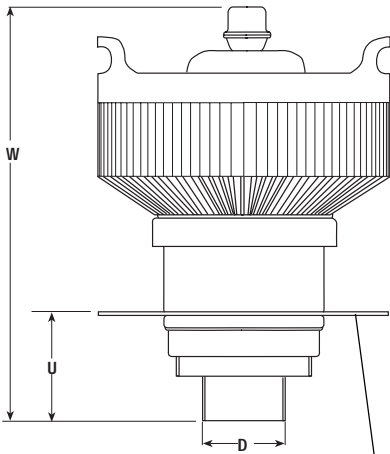
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# Svetlana TH6-3 and TH6-3A Industrial Power Triodes



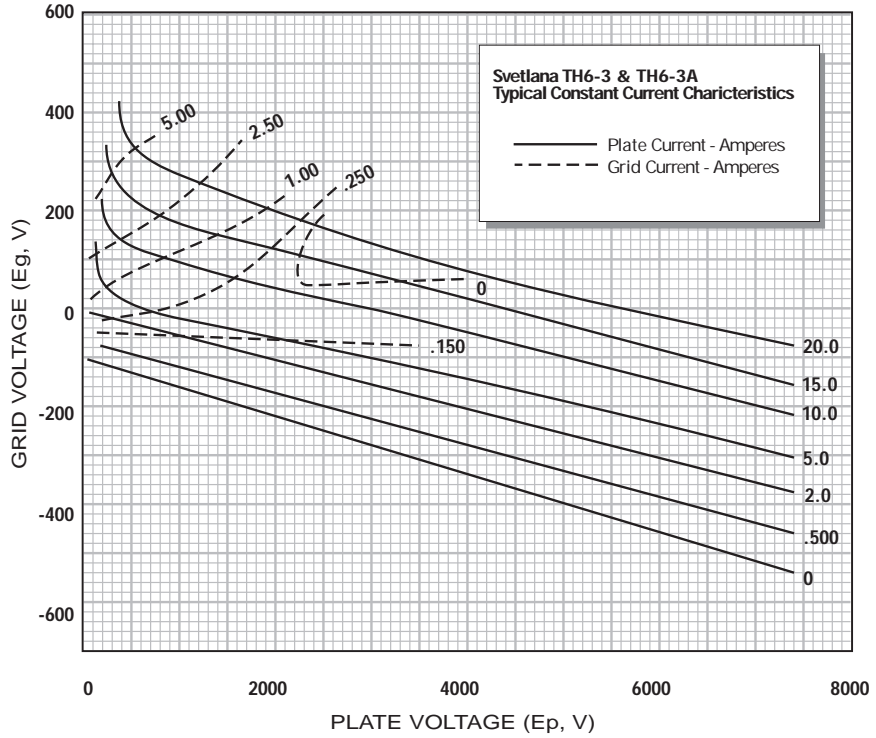
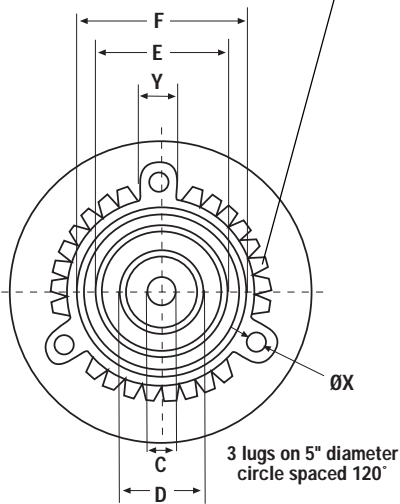
**Svetlana**  
ELECTRON DEVICES

TH6-3A Outline Drawing



GRID MOUNTING FLANGE

TH6-3A Bottom View



## Minimum Cooling Air Flow Requirements

### Anode-to-Base Air Flow

Anode Dissipation, Watts	Sea Level		5000 Feet	
	Air Flow, CFM	Pressure Drop, Inches of Water	Air Flow, CFM	Pressure Drop, Inches of Water
4000	85	0.18	105	0.21
6000	145	0.38	125	0.46
8000	215	0.68	260	0.82
10,000	235	1.08	360	0.32

Because the power dissipated by the filament represents about 250 watts and because grid dissipation can, under some conditions, represent another 250 watts, allowance has been made in preparing this tabulation for an additional 1000 watts.

## Dimensional Data

Dim.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
C	18.29	22.50	0.720	0.886
D	48.16	49.17	1.896	1.936
E	82.00	83.00	3.228	3.268
F	96.32	97.33	3.792	3.832
U	—	66.68	—	2.625
W	254.20	261.88	10.008	10.310
ØX	—	9.66	—	0.380
Y	24.00	26.00	0.945	1.024

Except for star flange, dimensions of TH6-3A and TH6-3 are identical.