SVETLANA TECHNICAL DATA

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

TH6-3

TH6-3A

The 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*

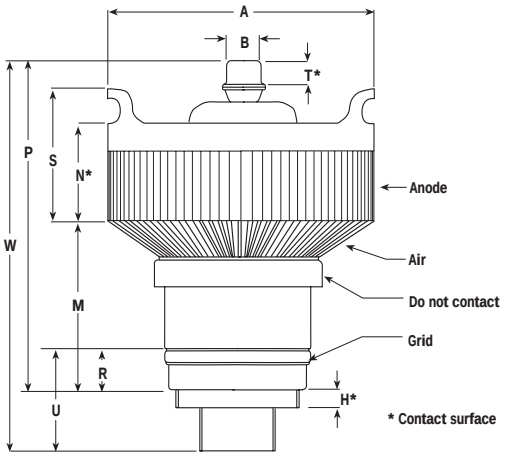
Typical Operation

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

Svetlana

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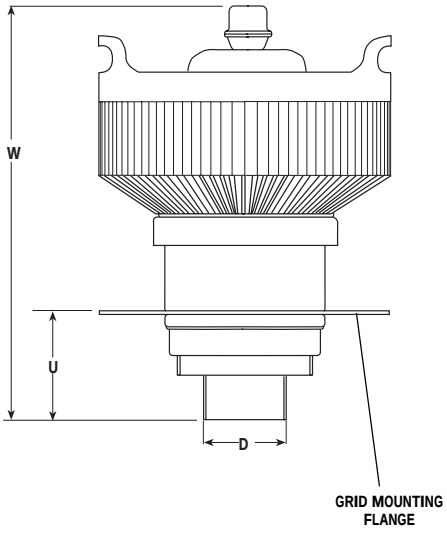
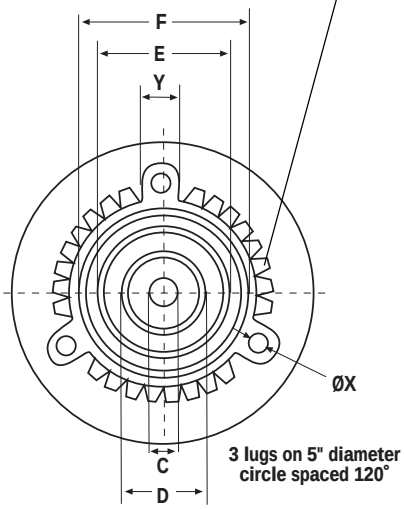
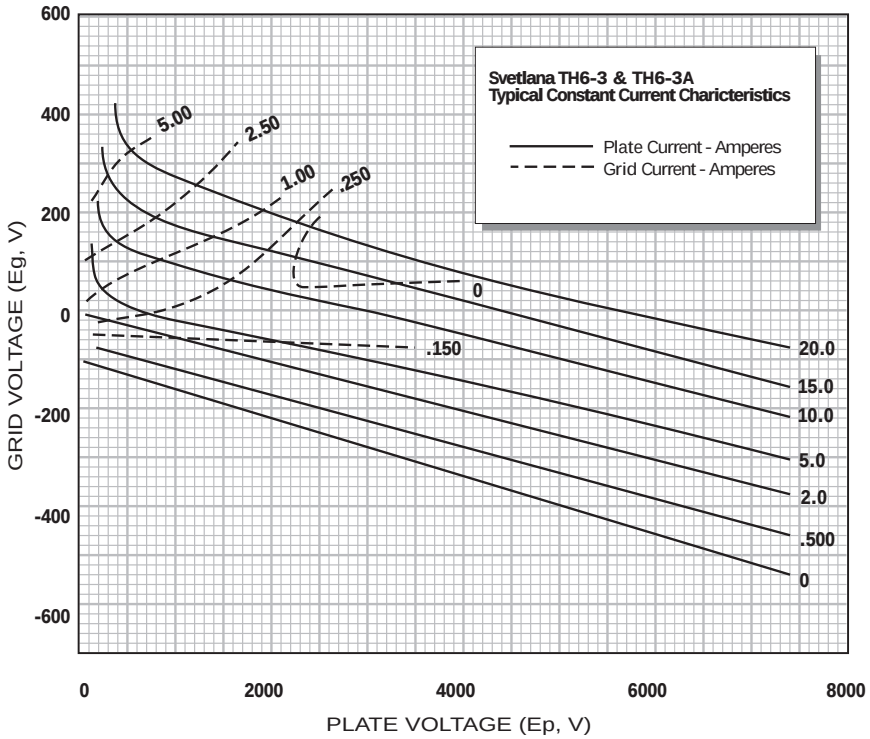
TH6-3A Outline Drawing



TH6-3A Bottom View





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.

Minumum Cooling Air Flow Requirements

Anode-to-Base Air Flow

	Sea Level		5000 Feet	
Anode Dissipation, Watts	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.