

SVETLANA TECHNICAL DATA

3CPX800A7

High-Mu Power Triode

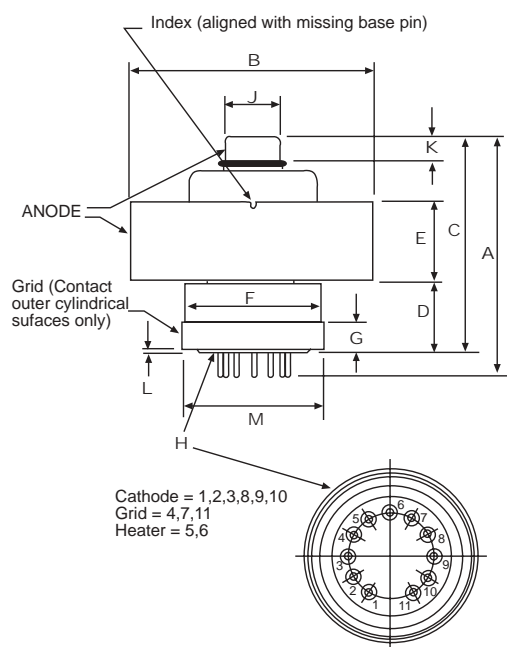


The Svetlana™ 3CPX800A7 is a high performance ceramic/metal high-mu power triode designed for use in communications and industrial service. The principal use is for pulsed RF amplifier, pulse modulator, or regulator service. When operated as a pulse modulator, the Svetlana 3CPX800A7 will hold off a maximum 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	
<i>Cathode:</i>	<i>Oxide-coated unipotential</i>
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
<i>Interelectrode capacitances, with grid grounded:</i>	
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
<i>Maximum dimensions:</i>	
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

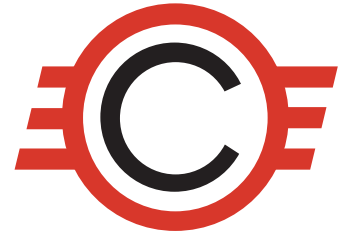
Svetlana Outline drawing



Dimensional Data				
Dim.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	59.44	66.88	2.344	2.633
B	63.119	63.881	2.485	2.515
C	54.66	59.74	2.152	2.352
D	19.964	23.013	.786	.906
E	18.034	20.066	.710	.790
F	—	35.712	—	1.406
G	4.750	—	.187	—
H	BASE: E11-81 (EIA DESIGNATION)			
J	14.199	14.554	0.559	0.573
K	6.096	—	0.240	—
M	35.992	36.398	1.417	1.433



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Svetlana

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

Anode* Dissipation Watts	Sea Level		5,000 Feet	
	Air Flow CFM	Pressure Drop Inches of Water	Air Flow CFM	Pressure Drop Inches of Water
400	6	0.09	7	0.10
600	11	0.20	14	0.23
800	19	0.50	23	0.57

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

