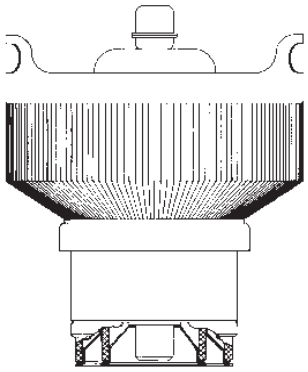


3CX15,000A7
POWER TRIODE

The Penta 3CX15,000A7 is a ceramic / metal power triode intended for use as a zero-bias Class rf amplifier or Class C power amplifier or ascillator. Class B operation with zero grid bias offers circuit simplicity by eliminating the bias supply. In addition, grounded-grid operation is attractive since a power gain as high as twenty times can be obtained with the 3CX15,000A7.

GENERAL CHARACTERISTICS[1]

Electrical

Filament	Thoriated Tungsten	
Voltage	6.3 ± 0.3	V
Current, at 6.3 volts	160	A
Amplification Factor (Average):	200	
Direct Interelectrode Capacitance (grounded cathode)[2]		
Cin	56	pF
Cout	0.2	pF
Cgp	36	pF
Direct Interelectrode Capacitance (grounded grid)[2]		
Cin	56	pF
Cout	36	pF
Cpk	0.2	pF
Frequency of Maximum Rating:		
CW	110	MHz

1. Characteristics and operating values are based upon performance tests. These figures may change without notice as the result of additional data or product refinement.

2. Capacitance values are for a cold tube as measured in a special shielded fixture in accordance with Electronic Industries Association Standard RS-191.

Revised 18 Nov 2022

P E N T A L A B O R A T O R I E S

14399 PRINCETON DRIVE * MOORPARK * CALIFORNIA 93003
(800) 421-4219 * (818) 882-3872 * FAX: (818) 882-3968

3CX15,000A7 POWER TRIODE

Mechanical

Maximum Overall Dimensions:		
Length	8.75 in.	222.3 mm
Diameter	7.05 in.	176.1 mm
Net Weight	12 lbs.	5.5 kg
Operating Position	Vertical base up or down	
Maximum Operating Temperature:		
Ceramic / Metal Seals	250° C	
Anode Core	250° C	
Cooling	Forced Air	
Base	Coaxial	
Recommended Air System Socket	PSK-1300 or SK-1320	
Recommended Air Chimney	SK-1306	

Radio Frequency Linear Amplifier Cathode Driven

Class AB

Absolute Maximum Ratings

DC Plate Voltage	8000	Volts
DC Plate Current	6.0	Amperes
Plate Dissipation	15,000	Watts
Grid Dissipation	500	Watts

Typical Operation (Frequencies to 110 MHz)

Class AB_2

Plate Voltage	7000	7000	Vdc
Grid Voltage	0	0	Vdc
Zero-Signal Plate Current[1]	0.6	0.6	Adc
Single-Tone Plate Current[2]	5.92	5.	Adc
Single-Tone Grid Current[1]	1.22	1.0	Adc
Driving Power[1]	1750	1540	W
Plate Dissipation	13.4	10.8	kW
Single-Tone Plate Output Power	29.6	24.2	kW
Resonant Load Impedance	693	745	ohms
Drive Impedance	27	32	ohms

1. Approximate values.
2. Adjust to obtain specified values.

3CX15,000A7 POWER TRIODE

Radio Frequency Power Amplifier or Oscillator

Class C Telegraphy or FM Telephony Grid Driven

Absolute Maximum Ratings

DC Plate Voltage	8000	Volts
DC Grid Voltage	-500	Volts
DC Plate Current	5.0	Amperes
Plate Dissipation	15,000	Watts
Grid Dissipation	500	Watts

Typical Operation (Frequencies to 110 MHz)

Plate Voltage	7000	Vdc
Grid Voltage	-230	Vdc
Plate Current	4.0	Adc
Grid Current[1]	775	mAdc
Peak rf Grid Voltage[1]	555	V
Calculated Driving Power[1]	430	W
Plate Input Power	28	kW
Plate Dissipation	6.7	kW
Plate Output Power	21.3	kW
Resonant Load Impedance	963	ohms

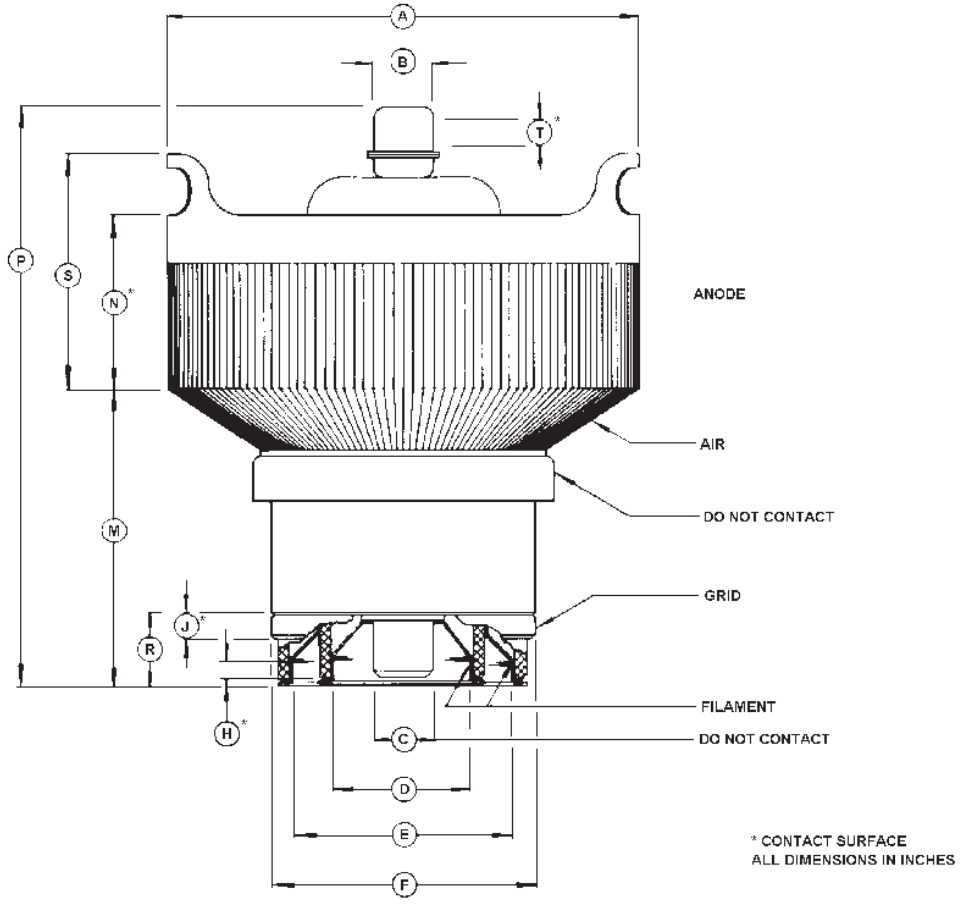
1. Approximate value.

Range Values For Equipment Design	Min.	Max.		
Heater: Current at 6.3 volts	152	168	A	
Cathode Warmup Time	5.0	--		sec.
Interelectrode Capacitances (grounded grid)[1]				
Cin	50.0	62.0	pF	
Cout	32.0	40.0	pF	
Cpk	--	0.3	pF	
Interelectrode Capacitances (grounded cathode)[1]				
Cin	50.0	62.0	pF	
Cout	--	0.3	pF	
Cgp	32.0	40.0	pF	

1. Capacitance values are for a cold tube as measured in a shielded fixture in accordance with Electronic Industries Association Standard RS-191.

3CX15,000A7 POWER TRIODE

DIMENSIONAL DATA						
DIM.	INCHES			MILLIMETERS		
	MIN.	MAX.	REF.	MIN.	MAX.	REF.
A	6.928	7.050	- -	175.97	179.07	- -
B	0.855	0.895	- -	21.72	22.73	- -
C	0.720	0.760	- -	18.29	19.30	- -
D	1.896	1.936	- -	48.16	49.17	- -
E	3.133	3.173	- -	79.58	80.59	-
F	3.792	3.832	- -	96.32	98.86	- -
H	0.188	- -	- -	4.78	- -	- -
J	0.188	- -	- -	4.78	- -	- -
M	3.950	4.300	- -	100.33	109.22	- -
N	2.412	2.788	- -	61.26	70.82	- -
P	8.250	8.750	- -	209.55	222.25	- -
R	0.986	1.050	- -	25.04	26.67	- -
S	3.412	3.788	- -	86.66	96.22	- -
T	0.375	- -	- -	9.53	- -	- -



3CX15,000A7 POWER TRIODE