



EITEL-McCULLOUGH, INC.
SAN CARLOS - CALIFORNIA

TENTATIVE DATA

8159

3CX10,000A3

MEDIUM-MU
POWER TRIODE

The Eimac 3CX10,000A3 is a ceramic and metal power triode intended primarily for use as a power oscillator in industrial-heating applications. It is also recommended for use as a grounded-grid FM amplifier, as a conventional plate-modulated amplifier, or as a linear amplifier.

GENERAL CHARACTERISTICS

ELECTRICAL				Min.	Nom.	Max.		
Filament:	Thoriated-Tungsten							
	Voltage	-	-		7.5		volts	
	Current	-	-	94		104	amperes	
	Amplification Factor	-	-		20			
	Interelectrode Capacitances, Grounded Cathode:							
	Input	-	-	48		58	μf	
	Output	-	-	1.2		1.5	μf	
	Feedback	-	-	30		38	μf	
Frequency for Maximum Ratings				-	-	-	-	140 Mc
MECHANICAL								
Base	-	-	-	-	-	-	-	Coaxial
Recommended Socket	-	-	-	-	-	-	-	Eimac SK-1300
Recommended Chimney	-	-	-	-	-	-	-	Eimac SK-1306
Operating Position	-	-	-	-	-	-	-	Vertical, base up or down
Cooling	-	-	-	-	-	-	-	Forced air
Maximum Operating Temperatures:								
	Anode Core	-	-	-	-	-	-	250°C
	Ceramic-to-Metal Seals	-	-	-	-	-	-	250°C
Maximum Dimensions:								
	Height	-	-	-	-	-	-	8.5 inches
	Diameter	-	-	-	-	-	-	7.0 inches
Net Weight	-	-	-	-	-	-	-	12 pounds



R-F INDUSTRIAL OSCILLATOR CLASS-C

TYPICAL OPERATION, Optimum Load

MAXIMUM RATINGS

D-C PLATE VOLTAGE	7000 MAX. VOLTS
D-C PLATE CURRENT	4.0 MAX. AMPS
PLATE DISSIPATION	10 MAX. KW
GRID DISSIPATION	250 MAX. WATTS

D-C Plate Voltage	6000	7000 volts
D-C Grid Voltage	-575	-670 volts
D-C Plate Current	4.0	4.0 amps
D-C Grid Current	610	670 ma
Plate Input Power	24	28 kw
Plate Output Power	18.9	22.4 kw

R-F POWER AMPLIFIER GROUNDED-GRID, CLASS-C

TYPICAL OPERATION

MAXIMUM RATINGS

D-C PLATE VOLTAGE	7000 MAX. VOLTS
D-C PLATE CURRENT	4.0 MAX. AMPS
PLATE DISSIPATION	10 MAX. KW
GRID DISSIPATION	250 MAX. WATTS

D-C Plate Voltage	6000	7000 volts
D-C Grid Voltage	-535	-625 volts
D-C Plate Current	4.0	4.0 amps
D-C Grid Current	545	530 ma
Driving Power	3700	4100 watts
Plate Output Power	20.5	24.5 kw

**3CX10,000A3****R-F POWER AMPLIFIER
PLATE-MODULATED, CLASS-C****TYPICAL OPERATION****MAXIMUM RATINGS**

D-C PLATE VOLTAGE	5500 MAX. VOLTS
D-C PLATE CURRENT	3.0 MAX. AMPS
PLATE DISSIPATION	6.5 MAX. KW
GRID DISSIPATION	250 MAX. WATTS

D-C Plate Voltage	4000	5000 volts
D-C Grid Voltage	-480	-600 volts
D-C Plate Current	3.0	3.0 amps
D-C Grid Current	660	550 ma
Driving Power	530	515 watts
Plate Output Power	9.7	12.4 kw

**R-F LINEAR AMPLIFIER
GROUNDED-GRID, CLASS-AB2****TYPICAL OPERATION****MAXIMUM RATINGS**

D-C PLATE VOLTAGE	7000 MAX. VOLTS
D-C PLATE CURRENT	5.0 MAX. AMPS
PLATE DISSIPATION	12 MAX. KW
GRID DISSIPATION	250 MAX. WATTS

D-C Plate Voltage	6000	7000 volts
Zero-Sig Grid Voltage*	-270	-325 volts
Max-Sig D-C Plate Current	4.0	4.0 amps
Max-Sig D-C Grid Current	300	250 ma
Driving Power	1900	2050 watts
Plate Output Power	18	20 kw

*Adjust to give 500 milliamperes zero-signal d-c plate current.

Note: "TYPICAL OPERATION" data are obtained by calculation from published characteristics curves and confirmed by direct tests. No allowance for circuit losses, either input or output, has been made.

APPLICATION

Cooling - The maximum temperature rating for the external surfaces of the 3CX10,000A3 is 250°C. Sufficient forced-air cooling must be provided to keep the temperature of the anode core and the temperature of the ceramic-metal seals below 250°C. Tube life is usually prolonged if these areas are maintained at temperatures below this maximum rating. Minimum air-flow requirements to maintain anode-core and seal temperatures below 225°C with an inlet-air temperature of 50°C are tabulated. The use of these air-flow rates through the recommended socket/chimney and tube combination in the base-to-anode direction provides effective cooling of the tube.

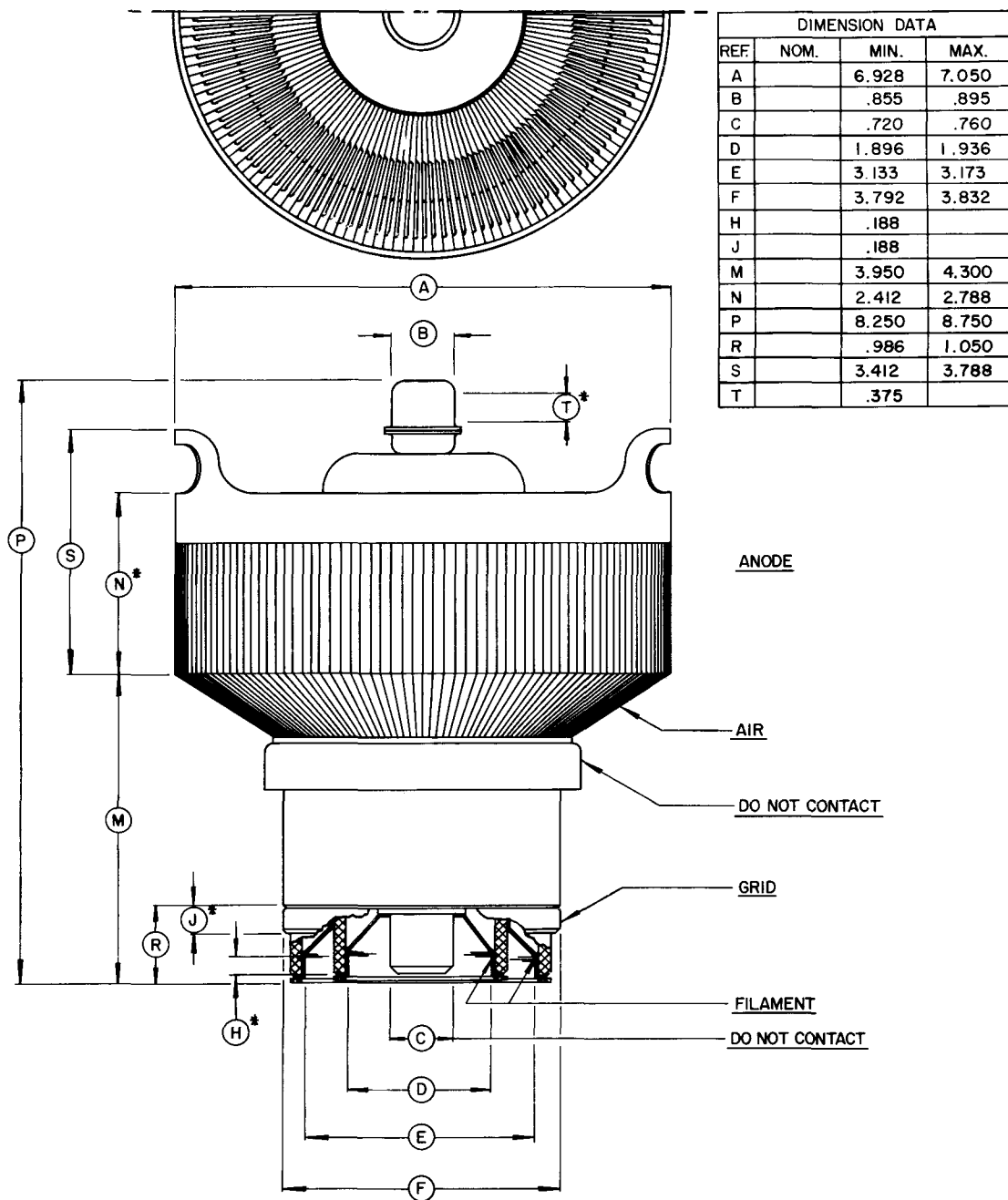
	Sea Level		10,000 Feet	
Plate** Dissipation (Watts)	Air Flow (CFM)	Pressure Drop (Inches of Water)	Air Flow (CFM)	Pressure Drop (Inches of Water)
4000	85	0.18	125	0.25
6000	145	0.38	210	0.55
8000	215	0.68	315	0.99
10,000	295	1.08	430	1.60
12,000	390	1.62	565	2.35

**Since the power dissipated by the filament is about 750 watts and since grid dissipation can, under some circumstances, represent another 250 watts, allowance has been made in preparing this tabulation for an additional 1000 watts dissipation.



Filament Operation - The rated filament voltage for the 3CX10,000A3 is 7.5 volts. Filament voltage, as measured at the socket, should be maintained at this value to obtain maximum tube life. In no case should it be allowed to deviate from the rated value by more than five percent.

Special Applications - If it is desired to operate this tube under conditions widely different from those given here, write to Power Grid Tube Marketing, Eitel-McCullough, Inc., 301 Industrial Way, San Carlos, California, for information and recommendations.





3CX10,000A3

