



ELECTRONIC TUBE REFERENCE

3CV30000A3

Power - Triode (over 1000V 100W) electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION
CONSTRUCTION
TRIODE

Very-high-power directly heated triode for industrial and transmitting RF service, using an exceptionally heavy filament.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	—
NOMINAL HEATER	6.3 V / 172 A	PARALLEL HEATER	— / —
HEATING	Direct	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION1 Triode	
AMPLIFICATION FACTOR	20
MAXIMUM PLATE VOLTAGE	10000 V
MAXIMUM PLATE DISSIPATION	30000 W
MAXIMUM GRID DISSIPATION	500 W
<i>Single triode section; promoted values mapped from printed General Characteristics and Maximum Ratings headings.</i>	

The Eimac 3CV30000A3 is a vapor-cooled ceramic-metal high-power triode for industrial RF oscillators, RF power and linear amplifiers, plate-modulated amplifiers, and grounded-grid FM amplifier service.

SOURCE OPERATING CONDITIONS
[SOURCE PDF](#)

1962 Eimac

Published test conditions and operating points. Values on this page are preserved as reported by this source.

1962 EIMAC

Section 1 · Triode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
The EIMAC 3CV30,000A3 is a vapor-cooled, ceramic-metal power triode	3 a	The EIMAC 3CV30,000A3 is a vapor-cooled, ceramic-metal power triode
Voltage	6.3 volts	GeneralCharacteristics Voltage - - - - - 6.3 volts
Current	152 amperes	GeneralCharacteristics Current - - - - - 152 172 amperes
Amplification Factor	20	GeneralCharacteristics Amplification Factor - - - - - 20
Grid-Filament	48 pF	GeneralCharacteristics Grid-Filament - - - - - 48 58 pF
Plate-Filament	1.2 pF	GeneralCharacteristics Plate-Filament - - - - - 1.2 1.5 pF
Grid-Plate	30 pF	GeneralCharacteristics Grid-Plate - - - - - 30 38 pF

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Anode Flange T e T S T T S 200°C	200 °C	Anode Flange T e T S T T S 200°C
Ceramic-to-metal Seals T L T T S 250°C	250 °C	Ceramic-to-metal Seals T L T T S 250°C
Height	875 inches	Height - - - - - < - - - « - 875 inches
Diameter . T T T S 7.5 inches	7.5 inches	Diameter . T T T S 7.5 inches
Net Weight	18 pounds	Net Weight - - - - - <« - <« - - <+ - - - - - 18 pounds

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
RF INDUCTION STRIP OSCILLATOR DC Plate Voltage	7000 volts	TYPICAL OPERATION RF INDUCTION STRIP OSCILLATOR DC Plate Voltage - - - - 7000 10,000 volts
DC Grid Voltage	600 volts	TYPICAL OPERATION DC Grid Voltage - - - - 600 —800 volts
DC PLATE VOLTAGE	10000 VOLTS	MaximumRatings DC PLATE VOLTAGE - - - - - 10,000 VOLTS Peak Positive Grid Voltage - - 440 360 volts
DCPLATECURRENT	6 AMPS	MaximumRatings DCPLATECURRENT - - - - - 6.0 AMPS Driving Power - - - - - 660 365 watts
PLATE INPUT POWER	60 KW	MaximumRatings PLATE INPUT POWER - - - - - 60 KW Plate Output Power - - - 30 42 kW
PLATE DISSIPATION	30 KW	MaximumRatings PLATE DISSIPATION - - - - - 30 KW Approximate Load Impedance - 600 750 ohms
(Revised 3-1-67) © 1967 Varian Printed in U.S.A	3 A	MaximumRatings (Revised 3-1-67) © 1967 Varian Printed in U.S.A.
Class-C DC Plate Voltage 5000 7000 volts	5000 volts	TYPICAL OPERATION Class-C DC Plate Voltage 5000 7000 volts
DC PLATE VOLTAGE	7000 VOLTS	TYPICAL OPERATION DC PLATE VOLTAGE - - - - 7000 VOLTS BC Grid C 00 600 ops
DC PLATE CURRENT	50 AMPS	TYPICAL OPERATION DC PLATE CURRENT - - - - 50 AMPS - Grid Current - - - - 0 m
PLATE DISSIPATION	20 KW	TYPICAL OPERATION PLATE DISSIPATION - - - - 20 KW Driving Power - - - - - 600 750 watts
GRID DISSIPATION	500 WATTS	TYPICAL OPERATION GRID DISSIPATION - - - - 500 WATTS Plate Output Power - - - 17.8 27.5 kW
LINEAR AMPLIFIER DC Plate Voltage	7000 volts	RADIO-FREQUENCY TYPICAL OPERATION LINEAR AMPLIFIER DC Plate Voltage - - - - 7000 10,000 volts
Class-AB DC Grid Voltage*	250 volts	RADIO-FREQUENCY TYPICAL OPERATION Class-AB DC Grid Voltage* - - - - - 250 —400 volts
2 Zero-Sig Plate Current	2 amps	RADIO-FREQUENCY TYPICAL OPERATION 2 Zero-Sig Plate Current - - - 2.0 2.0 amps
ax-Sig ri vrrrent	375 mA	MaximumRatings ax-Sig ri vrrrent - - 375 333 mA
DC PLATE VOLTAGE	-10000 VOLTS	MaximumRatings DC PLATE VOLTAGE - - - - -10,000 VOLTS Peak RF Grid Voltage - - - 530 700 volts

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
DC PLATE CURRENT	6 AMPS	MaximumRatings DC PLATE CURRENT - - - - - 6.0 AMPS Driving Power - - - - - 200 240 watts
PLATE DISSIPATION	30 KW	MaximumRatings PLATE DISSIPATION - - - - - 30 KW Plate Output Power - - - 26.4 41 kw
GRID DISSIPATION	500 WATTS	MaximumRatings GRID DISSIPATION - - - - - 500 WATTS *Adjust to give specified zero-signal dc plate current.
3CV30,000A3 is 6.3 volts. Filament voltage, as amplifier, input is reduced to 7000 volts at 5.0	3 volts	Note: ""TYPICAL OPERATION"" data are obtained by calculation from published characteristic curves. No allowance for circuit losses has been made. 3CV30,000A3 is 6.3 volts. Filament voltage, as amplifier, input is reduced to 7000 volts at 5.0
6.3 volts plus or minus five percent for maxi- for short periods during tuning without exceed	6.3 volts	Note: ""TYPICAL OPERATION"" data are obtained by calculation from published characteristic curves. No allowance for circuit losses has been made. 6.3 volts plus or minus five percent for maxi- for short periods during tuning without exceed-
more than 0.4 to 0.6 amperes grid current to wide variations in loading	0.4 amperes	Note: ""TYPICAL OPERATION"" data are obtained by calculation from published characteristic curves. No allowance for circuit losses has been made. more than 0.4 to 0.6 amperes grid current to wide variations in loading.
rating is 500 watts. this tube under conditions widely different from	500 watts	Note: ""TYPICAL OPERATION"" data are obtained by calculation from published characteristic curves. No allowance for circuit losses has been made. rating is 500 watts. this tube under conditions widely different from
power rating is 60 kilowatts at 10,000 volts and keting Department, EIMAC Division of Varian,	60 volts	Note: ""TYPICAL OPERATION"" data are obtained by calculation from published characteristic curves. No allowance for circuit losses has been made. power rating is 60 kilowatts at 10,000 volts and keting Department, EIMAC Division of Varian,
6.0 amperes dc. This rating applies for Class C 301 Industrial Way, San Carlos, California, for	6 amperes	Note: ""TYPICAL OPERATION"" data are obtained by calculation from published characteristic curves. No allowance for circuit losses has been made. 6.0 amperes dc. This rating applies for Class C 301 Industrial Way, San Carlos, California, for
900 boiler. It is very important that fins. This level is mark ed on the boile r. A reco m	900 A	900 boiler. It is very important that fins. This level is mark ed on the boile r. A reco m-

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
ge of the tube mak es a vapo r-ti ght seal 02 Cont rol	2 a	ge of the tube mak es a vapo r-ti ght seal 02 Cont rol
against the rubber “0” ring and boile Box to sense water level and a smal l reser voir to	0 a	against the rubber “0” ring and boile Box to sense water level and a smal l reser voir to
the 3CV3 0,00 0A3. Fila ment em wate r level , a swit ch is	3 a	the 3CV3 0,00 0A3. Fila ment em wate r level , a swit ch is
valve . A seco nd swit ch in the CB-2 02	2 A	valve . A seco nd swit ch in the CB-2 02
oxim atel y 100° C. In a	100 a	oxim atel y 100° C. In a
A 7750	7750 A	A 7750
v /88	88 v	v /88

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