



ELECTRONIC TUBE REFERENCE

3CW30000H3

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

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

TRIODE

Water-cooled ceramic-metal industrial power triode for high-power RF generation, amplification, or modulation. Its manufacturer ratings emphasize continuous transmitting duty with high plate dissipation and substantial power handling.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	—
NOMINAL HEATER	6.3 V / 162 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	12000 V
MAXIMUM PLATE DISSIPATION	30000 W
MAXIMUM GRID DISSIPATION	500 W
MAXIMUM CATHODE CURRENT	6 A
Single triode section; promoted values mapped from printed General Characteristics and Maximum Ratings headings.	

The EIMAC 3CW30000H3 is a water-cooled ceramic/metal industrial medium-mu power triode with 30 kw plate dissipation.

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 3CW30,000H3 is a water-cooled, ceramic-metal power	3 a	The Eimac 3CW30,000H3 is a water-cooled, ceramic-metal power
structure is rated at 500 watts making this tube an excellent choice for	500 watts	structure is rated at 500 watts making this tube an excellent choice for
Current	152 A	GeneralCharacteristics Current - - - - 152 172 A
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
Ceramic-to-Metal Seals	250 °C	Ceramic-to-Metal Seals - - - - - <+ - - . 250°C
Net Weight	12 pounds	Net Weight - - = - - - < s - o« o o o o o . 12 pounds
(Effective 11-1-68) © 1965, 1968 by Varian Printed in U.S.A	11 A	(Effective 11-1-68) © 1965, 1968 by Varian Printed in U.S.A.
Class-C {Filtered DC Power Supply) DC Plate Voltage 7000 10,000 volts	7000 volts	RF INDUSTRIAL OSCILLATOR TYPICAL OPERATION* Class-C {Filtered DC Power Supply) DC Plate Voltage 7000 10,000 volts

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
DC Plate Current	6 amps	RF INDUSTRIAL OSCILLATOR TYPICAL OPERATION* DC Plate Current - - - - 6.0 6.0 amps
DC PLATE VOLTAGE	12000 VOLTS	MaximumRatings DC PLATE VOLTAGE - - - 12,000 VOLTS DC Grid Current - - .66 .315 amps
DC PLATE CURRENT	6 AMPS	MaximumRatings DC PLATE CURRENT - - - - 6.0 AMPS Peak Positive Grid Voltage - 440 360 volts
Driving Power	660 watts	MaximumRatings Driving Power - - - 660 365 watts
DC GRID VOLTAGE	1000 VOLTS	MaximumRatings DC GRID VOLTAGE - - - - — 1000 VOLTS
Plate Input Power	42 kW	MaximumRatings Plate Input Power - - - - 42 60 kW
DC GRID CURRENT	1 AMP	MaximumRatings DC GRID CURRENT - - - 1.0 AMP Plate Dissipation - - - - 12 18 kW
PLATE INPUT POWER	60 KW	MaximumRatings PLATE INPUT POWER - - 60 KW Plate QOutput Power - 30 42 kW
PLATE DISSIPATION Approximate Load Impedance 600 750 ohms	600 ohms	MaximumRatings PLATE DISSIPATION Approximate Load Impedance 600 750 ohms
(NOMINAL)	30 Kw	MaximumRatings (NOMINAL) - - - - - 30 Kw *Loaded Conditions
00000HS3 is 6.3 volts. Filament voltage, as meas- cally, either base up or down	0 volts	00000HS3 is 6.3 volts. Filament voltage, as meas- cally, either base up or down.
provided. Ordinarily it will not be necessary to let water temperature must not exceed 70°C nor	70 °C	provided. Ordinarily it will not be necessary to let water temperature must not exceed 70°C nor
operate with more than 0.4 to 0.6 amperes grid should inlet water pressure exceed 60 psi. This	0.4 amperes	operate with more than 0.4 to 0.6 amperes grid should inlet water pressure exceed 60 psi. This
current to obtain reasonable efficiency. In in- table is based upon 20°C temperature rise	20 °C	current to obtain reasonable efficiency. In in- table is based upon 20°C temperature rise.
tion rating is 500 watts. Plate Water Pressure	500 watts	tion rating is 500 watts. Plate Water Pressure

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum plate voltage rating of 12,000 volts	12000 volts	Maximum plate voltage rating of 12,000 volts
and maximum plate current of 6.0 amperes dc 20 4 3.5	6 amperes	and maximum plate current of 6.0 amperes dc 20 4 3.5
watts input rating applies for Class C amplifier 30 6 4.5	30 watts	watts input rating applies for Class C amplifier 30 6 4.5
tors should be used. These precautions are es- metal seal temperatures below the 250°C maxi	250 °C	tors should be used. These precautions are es- metal seal temperatures below the 250°C maxi
The 3CW30,000H3 is usable to 140 MHz. At Division of Varian, 301 Industrial Way, San	3 MHz	The 3CW30,000H3 is usable to 140 MHz. At Division of Varian, 301 Industrial Way, San
7000 volts in Class C service. dations	7000 volts	7000 volts in Class C service. dations.
FITIING NUTS. v .50	50 v	FITIING NUTS. v .50
[SEENOTE 3) {(X)- w 29° 3/°	3 w	[SEENOTE 3) {(X)- w 29° 3/°
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SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

SOURCE PDF

1975 Eimac Tube Manual

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

1975 EIMAC TUBE MANUAL

Section 1 · Triode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Amplification factor	20	—
Heater/filament voltage	6.3 V	—
Heater/filament current	162 A	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum plate voltage	12000 V	—
Maximum plate dissipation	30000 W	—
Maximum grid dissipation	500 W	—
Maximum cathode/plate current	6 A	—
Frequency for maximum ratings	90 MHz	—
Plate input power maximum	60000 W	IndustrialRF
Typical plate output power	42000 W	ClassC

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Input/grid-filament capacitance	48–58 pF	—
Output/plate-filament capacitance	1.2–1.5 pF	—
Feedback/grid-plate capacitance	30–38 pF	—

CONSTRUCTION		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Cooling	Water and forced air	—



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1976 Eimac Tube Manual

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1976 EIMAC TUBE MANUAL
Section 1 · Triode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Amplification factor	20	—
Heater/filament voltage	6.3 V	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater/filament current	162 A	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum plate voltage	12000 V	—
Maximum plate dissipation	30000 W	—
Maximum grid dissipation	500 W	—
Maximum cathode/plate current	6 A	—
Frequency for maximum ratings	90 MHz	—
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CAPACITANCE		
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CONSTRUCTION		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Cooling	Water and forced air	—



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

199X Svetlana

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

199X SVETLANA

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
DC plate voltage 10,000	7000 V	Typical Operation (Filtered DC Power)
DC grid voltage -800	-600 V	Typical Operation (Filtered DC Power)
DC plate current 6.0	6 A	Typical Operation (Filtered DC Power)
DC grid current* 0.315	660 mA	Typical Operation (Filtered DC Power)
Peak RF grid voltage* 360	440 V	Typical Operation (Filtered DC Power)
Driving power 365	660 W	Typical Operation (Filtered DC Power)
Plate output power 42	30000 W	Typical Operation (Filtered DC Power)
Plate dissipation 18	12000 W	Typical Operation (Filtered DC Power)
Load impedance* 750	600 ohms	Typical Operation (Filtered DC Power)
Current @	6.3 V	as an oscillator. A modern mesh filament is used. The improved mesh
Amplification factor	20 V	as an oscillator. A modern mesh filament is used. The improved mesh
Input	53 pF	as an oscillator. A modern mesh filament is used. The improved mesh
Output	1.3 pF	as an oscillator. A modern mesh filament is used. The improved mesh
Feedback	34 pF	as an oscillator. A modern mesh filament is used. The improved mesh
Maximum frequency for full ratings	90 MHz	as an oscillator. A modern mesh filament is used. The improved mesh
DC plate current	6 A	Maximum Ratings Dimensional Data
Grid voltage	-1000 V	Maximum Ratings Dimensional Data
Grid current	1 A	Maximum Ratings Dimensional Data
Plate dissipation	30000 W	Maximum Ratings Dimensional Data
Plate input power	60000 W	Maximum Ratings Dimensional Data

TUBE TINKER

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