



ELECTRONIC TUBE REFERENCE

3CW10000H3

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

CONSOLIDATED TECHNICAL DATA

1 SECTION
CONSTRUCTION
TRIODE

Water-cooled ceramic-metal medium-mu power triode for industrial radio-frequency heating service.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	—
NOMINAL HEATER	7.5 V / 75 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	10000 W
MAXIMUM GRID DISSIPATION	150 W
MAXIMUM CATHODE CURRENT	3 A
<i>Single triode section; promoted values mapped from printed General Characteristics and Maximum Ratings headings.</i>	

The EIMAC 3CW10000H3 is a water-cooled ceramic/metal industrial medium-mu power triode for rf heating 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 3CW10,000H3 is a water-cooled, ceramic/metal power triode	3 a	The EIMAC 3CW10,000H3 is a water-cooled, ceramic/metal power triode
serve emission is available from its 560 watt filament. The grid structure	560 watt	serve emission is available from its 560 watt filament. The grid structure
is rated at 150 watts making this tube an excellent choice for severe ap	150 watts	is rated at 150 watts making this tube an excellent choice for severe ap-
Voltage « v o v v vt vt it ittt i i s e s 7.5+0.37 V	7.5 v	GeneralCharacteristics Voltage « v o v v vt vt it ittt i i s e s 7.5+0.37 V
Current, at 7.5 VOItS v v v v vt vt vt v e e ceevve s e 75 A e	7.5 v	GeneralCharacteristics Current, at 7.5 VOItS v v v v vt vt vt v e e ceevve s e 75 A e
Amplification Factor (Average)	20	GeneralCharacteristics Amplification Factor (Average): o 20)
1 o1 53.0 pF	1 pF	GeneralCharacteristics 1 o1 53.0 pF
L0 15 1.5 pF	15 pF	GeneralCharacteristics L0 15 1.5 pF
Feedback. . « v v v o v it i i ittt it e it ittt e s 25.0 pF	25 v	GeneralCharacteristics Feedback. . « v v v o v it i i ittt it e it ittt e s 25.0 pF
CW ittt it i ittt it ettt te sttt e st ite e it e 90 MHz	90 MHz	GeneralCharacteristics CW ittt it i ittt it ettt te sttt e st ite e it e 90 MHz
2. Capacitance values are for a cold tube as measured in a special shielded fixture	2 a	GeneralCharacteristics 2. Capacitance values are for a cold tube as measured in a special shielded fixture.

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Diameter v v v vttt ittt et et e e 5.090 in; 129.29 mm	5.09 v	Diameter v v v vttt ittt et et e e 5.090 in; 129.29 mm
(Revised 10-15-70) © 1966, 1970 by Varian Printed in U.S.A	10 A	(Revised 10-15-70) © 1966, 1970 by Varian Printed in U.S.A.
DCPLATEVOLTAGE	10000 VOLTS	MaximumRatings DCPLATEVOLTAGE 10,000 VOLTS
Peak rf Grid Voltageℓ	250 v	MaximumRatings Peak rf Grid Voltageℓ. 250 250 v
Calculated Driving Power	170 W	MaximumRatings Calculated Driving Power 170 215 W
DC GRID VOLTAGE	-1000 VOLTS	MaximumRatings DC GRID VOLTAGE -1000 VOLTS
Plate Input Power	20.15 kW	MaximumRatings Plate Input Power 20.15 26.10 kW
DCPLATE CURRENT	3 AMPERES	MaximumRatings DCPLATE CURRENT 3.0 AMPERES Plate Dissipation 5,16 5.50 kW
DCGRIDCURRENT	0.5 AMPERE	MaximumRatings DCGRIDCURRENT 0.5 AMPERE Plate Output Power 15.0 20.6 kW
PLATE INPUTPOWER	30000 WATTS	MaximumRatings PLATE INPUTPOWER 30,000 WATTS Resonant Load Impedance 1120 1470 Q
PLATE DISSIPATION	10000 WATTS	MaximumRatings PLATE DISSIPATION 10,000 WATTS
Filament: Current at 7.5 volts . . . v v o v ittt i ittt ittt it e 72 77 A	7.5 volts	NOTE: TYPICAL OPERATION data are obtained by calculation from published characteristic curves or actual measur- Filament: Current at 7.5 volts . . . v v o v ittt i ittt ittt it e 72 77 A
56.0 pF	56 pF	NOTE: TYPICAL OPERATION data are obtained by calculation from published characteristic curves or actual measur- 56.0 pF
1.65 pF	1.65 pF	NOTE: TYPICAL OPERATION data are obtained by calculation from published characteristic curves or actual measur- 1.65 pF
Feedback	220 pF	NOTE: TYPICAL OPERATION data are obtained by calculation from published characteristic curves or actual measur- Feedback viiiiiini ittt etnannaneassnaas. 220 28.0 pF

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
1. Capacitance values are for a cold tube as measured in a shielded fixture	1 a	NOTE: TYPICAL OPERATION data are obtained by calculation from published characteristic curves or actual measur- 1. Capacitance values are for a cold tube as measured in a shielded fixture.
ed vertically, either base up or down. A grid This table is based upon 15°C temperature rise	15 A	ed vertically, either base up or down. A grid This table is based upon 15°C temperature rise
outlet water temperature must not exceed 70°C	70 °C	outlet water temperature must not exceed 70°C
ment contact ring by a 1% inch LD. air duct access doors open. Always remember that HIGH	1 a	ment contact ring by a 1% inch LD. air duct access doors open. Always remember that HIGH
arranged at a 45° angle with the center line of VOLTAGE CAN KILL	45 a	arranged at a 45° angle with the center line of VOLTAGE CAN KILL.
3CWwW10,000H3 is 7.5 volts. Filament voltage, as as an industrial oscillator is a potential X-ray	3 volts	3CWwW10,000H3 is 7.5 volts. Filament voltage, as as an industrial oscillator is a potential X-ray
0.5 ampere dc. This value should not be ex- by the tube envelope. Additional X-ray shielding	0.5 ampere	0.5 ampere dc. This value should not be ex- by the tube envelope. Additional X-ray shielding
grid dissipation rating is 150 watts	150 watts	grid dissipation rating is 150 watts.
A 2830 3.030	2830 A	A 2830 3.030 - - 71.88] 76.96] - -
v £	3.25 v	v £ - - - [3.250 - - - - 8255
SEE NOTE 3, ERS aiowsE (W 2o [s [	3 W	SEE NOTE 3, ERS aiowsE (W 2o [s [-- [oo 30 --







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.

Section 1 · Triode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Amplification factor	20	—
Heater/filament voltage	7.5 V	—
Heater/filament current	75 A	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum plate voltage	10000 V	—
Maximum plate dissipation	10000 W	—
Maximum grid dissipation	150 W	—
Maximum cathode/plate current	3 A	—
Frequency for maximum ratings	90 MHz	—
Plate input power maximum	30000 W	IndustrialRF
Typical plate voltage	7000 V	ClassC
Typical plate current	3 A	ClassC

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Input/grid-filament capacitance	53–53 pF	—
Output/plate-filament capacitance	1.5–1.5 pF	—
Feedback/grid-plate capacitance	25–25 pF	—

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



SOURCE DATA APPENDIX

1976 Eimac Tube Manual

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

1976 EIMAC TUBE MANUAL

Section 1 · Triode

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

TUBE TINKER

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and their source documents.

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