



ELECTRONIC TUBE REFERENCE

8160

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

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

TRIODE

High-mu ceramic-metal zero-bias power triode for grounded-grid Class B audio and RF amplification. Approximately 12 kW plate dissipation, multi-kilovolt capability, and very high amplification factor provide exceptional power gain with minimal bias requirements.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	—
NOMINAL HEATER	7.5 V / 10 A	PARALLEL HEATER	— / —
HEATING	Direct	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION1 Triode	
AMPLIFICATION FACTOR	200
MAXIMUM PLATE VOLTAGE	8000 V
MAXIMUM PLATE DISSIPATION	12000 W
MAXIMUM GRID DISSIPATION	500 W
MAXIMUM CATHODE CURRENT	5 A
<i>Promoted maximum ratings/characteristics populated from published headings; service-specific values retained in parameters.</i>	

High-mu ceramic-metal zero-bias power triode for grounded-grid Class-B audio/RF 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

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
The EIMAC [1]	8160	The EIMAC 8160/3CX10,000A7 is a ceramic and metal power triode
The EIMAC [2]	3	The EIMAC 8160/3CX10,000A7 is a ceramic and metal power triode
The EIMAC [3]	0	The EIMAC 8160/3CX10,000A7 is a ceramic and metal power triode
Amplification Factor (Nominal) o iii ittt ittt ittt	200	Amplification Factor (Nominal) o iii ittt ittt 200
Frequency for Maximum Ratings. o ittt i ittt iii i iii e,	160 MHz	Frequency for Maximum Ratings. o ittt i ittt iii i iii e, 160 MHz
Published value	2	2. Capacitance values are for a cold tube as measured in a shielded fixture in accordance with Electronic Industries
DC Plate Voltage [1]	7000	DC Plate Voltage 7000 7000
DC Plate Voltage [2]	7000	DC Plate Voltage 7000 7000
MAXIMUM RATINGS Zero-Signal DC Plate Current1 [1]	0.6	MAXIMUM RATINGS Zero-Signal DC Plate Current1 . . . 0.60 0.60
MAXIMUM RATINGS Zero-Signal DC Plate Current1 [2]	0.6	MAXIMUM RATINGS Zero-Signal DC Plate Current1 . . . 0.60 0.60
Max-Signal DC Plate Current , [1]	3.72	Max-Signal DC Plate Current , . . . 3.72 5.00
Max-Signal DC Plate Current , [2]	5	Max-Signal DC Plate Current , . . . 3.72 5.00
DC PLATE VOLTAGE [1]	8000 V	DC PLATE VOLTAGE 8000 VOLTS Max-Signal DC Grid Current , , . 0.71 1.00
DC PLATE VOLTAGE [2]	0.71 V	DC PLATE VOLTAGE 8000 VOLTS Max-Signal DC Grid Current , , . 0.71 1.00

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
DC PLATE VOLTAGE [3]	1 V	DC PLATE VOLTAGE 8000 VOLTS Max-Signal DC Grid Current . , . 0.71 1.00
DCPLATECURRENT [1]	5 A	DCPLATECURRENT. 5.0 AMPERES Driving Impedance 35 32
DCPLATECURRENT [2]	35 A	DCPLATECURRENT. 5.0 AMPERES Driving Impedance 35 32
DCPLATECURRENT [3]	32 A	DCPLATECURRENT. 5.0 AMPERES Driving Impedance 35 32
PLATE DISSIPATION [1]	12 kW	PLATE DISSIPATION 12 KILOWATTS Resonant Load Impedance . , , ... 1020 745
PLATE DISSIPATION [2]	1020 kW	PLATE DISSIPATION 12 KILOWATTS Resonant Load Impedance . , , ... 1020 745
PLATE DISSIPATION [3]	745 kW	PLATE DISSIPATION 12 KILOWATTS Resonant Load Impedance . , , ... 1020 745
GRID DISSIPATION [1]	500 W	GRID DISSIPATION 500 WATTS Max-Signal Driving Power 885 1540
GRID DISSIPATION [2]	885 W	GRID DISSIPATION 500 WATTS Max-Signal Driving Power 885 1540
GRID DISSIPATION [3]	1540 W	GRID DISSIPATION 500 WATTS Max-Signal Driving Power 885 1540
Peak Envelope Plate Output Power [1]	17.7	Peak Envelope Plate Output Power. 17.7 24,2
Peak Envelope Plate Output Power [2]	242	Peak Envelope Plate Output Power. 17.7 24,2
Published value [1]	1	1. Approximate value. Power Gain 13 12
Published value [2]	13	1. Approximate value. Power Gain 13 12
Published value [3]	12	1. Approximate value. Power Gain 13 12
Class B, Grid Driven DC Plate Voltage [1]	7000	Class B, Grid Driven DC Plate Voltage 7000 7000 V
Class B, Grid Driven DC Plate Voltage [2]	7000	Class B, Grid Driven DC Plate Voltage 7000 7000 V
DC Grid Voltage	0	DC Grid Voltage 0 (VIRY]
MAXIMUM RATINGS (Per Tube) Zero-Signal DC Plate Current [1]	1	MAXIMUM RATINGS (Per Tube) Zero-Signal DC Plate Current 1, , ., 1.20 1.20 A

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
MAXIMUM RATINGS (Per Tube) Zero-Signal DC Plate Current [2]	1.2	MAXIMUM RATINGS (Per Tube) Zero-Signal DC Plate Current 1, , , 1.20 1.20 A
MAXIMUM RATINGS (Per Tube) Zero-Signal DC Plate Current [3]	1.2	MAXIMUM RATINGS (Per Tube) Zero-Signal DC Plate Current 1, , , 1.20 1.20 A
) Max-Signal DC Plate Current , [1]	7.5	) Max-Signal DC Plate Current , ... 7.50 10.0 A
) Max-Signal DC Plate Current , [2]	10	) Max-Signal DC Plate Current , ... 7.50 10.0 A
DC PLATE VOLTAGE [1]	8000 V	DC PLATE VOLTAGE 8000 VOLTS Max- Signal DC Grid Current, ... 1.50 2.06 A
DC PLATE VOLTAGE [2]	1.5 V	DC PLATE VOLTAGE 8000 VOLTS Max- Signal DC Grid Current, ... 1.50 2.06 A


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

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-Filament Capacitance	59 pF	—
Grid-Plate Capacitance	36 pF	—
Plate-Filament Capacitance	0.2 pF	—
Frequency Maximum	160 MHz	—
RF Linear Plate Voltage Maximum	8000 V	—
RF Linear Plate Current Maximum	5 A	—
Class-C Plate Current Maximum	4 A	—
Plate-Modulated RF Plate Voltage Maximum	6500 V	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate-Modulated RF Plate Current Maximum	3 A	—
Typical Peak Envelope Output Power	24.2 kW	GroundedGrid;ClassB
Typical AF Output Power	47.7 kW	TwoTubes



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1976 Eimac Tube Manual

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1976 EIMAC TUBE MANUAL

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-Filament Capacitance	59 pF	—
Grid-Plate Capacitance	36 pF	—
Plate-Filament Capacitance	0.2 pF	—
Frequency Maximum	160 MHz	—
RF Linear Plate Voltage Maximum	8000 V	—
RF Linear Plate Current Maximum	5 A	—
Class-C Plate Current Maximum	4 A	—
Plate-Modulated RF Plate Voltage Maximum	6500 V	—
Plate-Modulated RF Plate Current Maximum	3 A	—
Typical Peak Envelope Output Power	24.2 kW	GroundedGrid;ClassB
Typical AF Output Power	47.7 kW	TwoTubes

SOURCE OPERATING CONDITIONS

199X Svetlana

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

199X SVETLANA
Section 1 · Triode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Current @	7.5 V	zero-bias, class B RF or audio amplifiers. A
Input	59 pF	zero-bias, class B RF or audio amplifiers. A
Output	36 pF	zero-bias, class B RF or audio amplifiers. A
Feedback	0.2 pF	zero-bias, class B RF or audio amplifiers. A
Input	59 pF	zero-bias, class B RF or audio amplifiers. A
Output	0.2 pF	zero-bias, class B RF or audio amplifiers. A
Feedback	36 pF	zero-bias, class B RF or audio amplifiers. A
Maximum frequency for full ratings (CW)	160 MHz	zero-bias, class B RF or audio amplifiers. A

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
DC plate voltage	10000 V	Maximum Ratings
DC plate current	5 A	Maximum Ratings
Plate dissipation	12000 W	Maximum Ratings
Grid dissipation	500 W	Maximum Ratings
DC plate voltage 7000	7000 V	Typical operation
Zero-signal DC plate current* 0.60	600 mA	Typical operation
Single-tone DC plate current 3.72	5 A	Typical operation
Grid bias 0	0 V	Typical operation
Single-tone DC grid current* 0.71	1 A	Typical operation
Peak driving power 885	1540 W	Typical operation

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Single-tone plate output power 17.7	24200 W	Typical operation
Resonant load impedance 1020	745 Ohms	Typical operation
Driving impedance 35	32 Ohms	Typical operation
DC plate voltage	10000 V	Maximum Ratings
DC plate current	4 A	Maximum Ratings
Plate dissipation	10000 W	Maximum Ratings
Grid dissipation	500 W	Maximum Ratings
DC plate voltage	7600 V	Typical operation
DC grid voltage	-110 V	Typical operation
DC plate current	3.68 A	Typical operation
DC grid current	780 mA	Typical operation
Peak RF cathode voltage	400 V	Typical operation
Driving power	1510 W	Typical operation
Plate output power	22500 W	Typical operation
DC plate voltage	8000 V	Maximum ratings (per tube)
DC plate current	5 A	Maximum ratings (per tube)
Plate dissipation	12000 W	Maximum ratings (per tube)
Grid dissipation	500 W	Maximum ratings (per tube)
DC grid voltage 0	0 V	Typical operation (two tubes, sinusoidal waveform)
Zero-signal DC plate current* 1.2	1.2 A	Typical operation (two tubes, sinusoidal waveform)
Maximum-signal DC plate current 7.5	7.5 A	Typical operation (two tubes, sinusoidal waveform)

TUBE TINKER

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