



ELECTRONIC TUBE REFERENCE

3400Z

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

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

TRIODE

Eimac 3-400Z compact high-mu zero-bias power triode for grounded-grid Class B audio and RF amplification, with oscillator capability. Its approximately 400 W plate dissipation and high amplification factor provide strong power gain through VHF frequencies.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	—
NOMINAL HEATER	5 V / 14.7 A	PARALLEL HEATER	— / —
HEATING	Direct	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION 1 Triode	
AMPLIFICATION FACTOR	200
MAXIMUM PLATE VOLTAGE	4000 V
MAXIMUM PLATE DISSIPATION	400 W
MAXIMUM GRID DISSIPATION	20 W
<i>Promoted maximum ratings/characteristics populated from published headings; service-specific values retained in parameters.</i>	

The Eimac 3400Z/3-400Z is a compact zero-bias high-mu power triode for class-B audio and radio-frequency amplifier service, with RF oscillator capability.

SOURCE OPERATING CONDITIONS

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]	8163	The EIMAC 8163/3-400Z is a compact power triode intended to be used
The EIMAC [2]	3	The EIMAC 8163/3-400Z is a compact power triode intended to be used
The EIMAC [3]	-400	The EIMAC 8163/3-400Z is a compact power triode intended to be used
a power gain as high as twenty times can be obtained with the	8163	a power gain as high as twenty times can be obtained with the 8163/
Voltage ttt ieeenn	50	Voltage ttt ieeenn 50 V
Amplification Factor (Average)	200	Amplification Factor (Average) 200
Interelectrode Capacitances (Average)?	2	Interelectrode Capacitances (Average)? 2Grounded-Grid Connection:
Frequency for Maximum Ratings	110 MHz	Frequency for Maximum Ratings 110 MHz
Published value	2	2. Capacitance values are for a cold tube as measured in a special shielded fixture in accordance with Electronic In-
GROUND-GRID, Class B	1 kW	GROUND-GRID, Class B 1 kW PEP Input)
MAXIMUM RATINGS: Plate Voltage	2500	MAXIMUM RATINGS: Plate Voltage 2500 Vdc
Zero Sig. Plate Current! ,	73	Zero Sig. Plate Current! , ... 73 mAdc
DC PLATEVOLTAGE [1]	4000 V	DC PLATEVOLTAGE 4000 VOLTS Single Tone Plate Current 400 mAdc
DC PLATEVOLTAGE [2]	400 V	DC PLATEVOLTAGE 4000 VOLTS Single Tone Plate Current 400 mAdc

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
DC PLATE CURRENT	400 mA	DC PLATE CURRENT 0.40 AMPERE Single Tone Gtid Current1.
PLATE DISSIPATION [1]	400 W	PLATE DISSIPATION 400 WATTS Two Tone Plate Current 274 mAdc
PLATE DISSIPATION [2]	274 W	PLATE DISSIPATION 400 WATTS Two Tone Plate Current 274 mAdc
GRID DISSIPATION [1]	20 W	GRID DISSIPATION 20 WATTS Two Tone Grid Currentl, , ... 82 mAdc
GRID DISSIPATION [2]	82 W	GRID DISSIPATION 20 WATTS Two Tone Grid Currentl, , ... 82 mAdc
Driving Impedance	114	Driving Impedance 114 Q
Plate Voltage [1]	3000	Plate Voltage 3000 Vdc Max. Sig. Driving Power1 44 W
Plate Voltage [2]	44	Plate Voltage 3000 Vdc Max. Sig. Driving Power1 44 W
Zero Sig. Plate Current1 .. ., [1]	100	Zero Sig. Plate Current1 .. ., ... 100 mAdc Intermodulation Distortion Products 2. -35 dB
Zero Sig. Plate Current1 .. ., [2]	2	Zero Sig. Plate Current1 .. ., ... 100 mAdc Intermodulation Distortion Products 2. -35 dB
Zero Sig. Plate Current1 .. ., [3]	-35	Zero Sig. Plate Current1 .. ., ... 100 mAdc Intermodulation Distortion Products 2. -35 dB
Max. Sig. Plate Current	333	Max. Sig. Plate Current 333 mAdc
Max. Sig. Grid Current1	120	Max. Sig. Grid Current1 120 mAdc TYPICAL OPERATION (Minimum Distortion Products
Driving Impedance [1]	122	Driving Impedance 122 Q with Ep = 1500 Vdc)
Driving Impedance [2]	1500	Driving Impedance 122 Q with Ep = 1500 Vdc)
Resonant Load Impedance	4750	Resonant Load Impedance 4750)
Max. Sig. Driving Power [1]	1	Max. Sig. Driving Power 1. 2w Plate Voltage 1500 Vdc
Max. Sig. Driving Power [2]	2	Max. Sig. Driving Power 1. 2w Plate Voltage 1500 Vdc
Max. Sig. Driving Power [3]	1500	Max. Sig. Driving Power 1. 2w Plate Voltage 1500 Vdc
Peak Envelope Plate Output Power	656	Peak Envelope Plate Output Power . . . 656 W Zero Sig. Plate Current1., . . , ...

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Single Tone Plate Current . . . ,	400	Single Tone Plate Current . . . , ... 400 mAdc
TYPICAL OPERATION (Minimum Distortion Products) Single Tone Grid Current [1]	1	TYPICAL OPERATION (Minimum Distortion Products) Single Tone Grid Current 1, ... 163 mAdc
TYPICAL OPERATION (Minimum Distortion Products) Single Tone Grid Current [2]	163	TYPICAL OPERATION (Minimum Distortion Products) Single Tone Grid Current 1, ... 163 mAdc
Two Tone Plate Current	265	Two Tone Plate Current 265 mAdc
Plate Voltage [1]	2000	Plate Voltage 2000 Vdc Two Tone Grid Current 1. 92 mAdc
Plate Voltage [2]	1	Plate Voltage 2000 Vdc Two Tone Grid Current 1. 92 mAdc
Plate Voltage [3]	92	Plate Voltage 2000 Vdc Two Tone Grid Current 1. 92 mAdc
Published value [1]	62	.. 62 mAdc Driving Impedance 109 Q
Published value [2]	109	.. 62 mAdc Driving Impedance 109 Q
Single Tone Plate Current [1]	400	Single Tone Plate Current 400 mAdc Resonant Load Impedance 1620)
Single Tone Plate Current [2]	1620	Single Tone Plate Current 400 mAdc Resonant Load Impedance 1620)
Single Tone Grid Current [1]	1	Single Tone Grid Current 1. 148 mAdc Peak Envelope Useful Output Power?t, 300 W
Single Tone Grid Current [2]	148	Single Tone Grid Current 1. 148 mAdc Peak Envelope Useful Output Power?t, 300 W
Single Tone Grid Current [3]	300	Single Tone Grid Current 1. 148 mAdc Peak Envelope Useful Output Power?t, 300 W
Two Tone Plate Current [1]	265	Two Tone Plate Current 265 mAdc Max, Sig. Driving Powerl 46 W
Two Tone Plate Current [2]	46	Two Tone Plate Current 265 mAdc Max, Sig. Driving Powerl 46 W
Two Tone Grid Current? [1]	87	Two Tone Grid Current? 87 mAdc Intermodulation Distortion Products2 . -37 dB
Two Tone Grid Current? [2]	-37	Two Tone Grid Current? 87 mAdc Intermodulation Distortion Products2 . -37 dB
Driving Impedance	112	Driving Impedance 112 Q
Resonant Load Impedance [1]	2750	Resonant Load Impedance 2750 Q 1. Approximate value.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Resonant Load Impedance [2]	1	Resonant Load Impedance 2750 Q 1. Approximate value.
Peak Envelope Useful Output Power! [1]	445	Peak Envelope Useful Output Power! . . 445 W 2. Approximate value: referenced against one tone of
Peak Envelope Useful Output Power! [2]	2	Peak Envelope Useful Output Power! . . 445 W 2. Approximate value: referenced against one tone of
MAXIMUM RATINGS (PER TUBE): Plate Voltage	3000	MAXIMUM RATINGS (PER TUBE): Plate Voltage 3000 Vdc
Grid Voltage	0	Grid Voltage 0 Vdc
DC PLATE VOLTAGE [1]	4000 V	DC PLATE VOLTAGE 4000 VOLTS Zero Sig. Plate Currentl 200 mAdc
DC PLATE VOLTAGE [2]	200 V	DC PLATE VOLTAGE 4000 VOLTS Zero Sig. Plate Currentl 200 mAdc
DC PLATE CURRENT [1]	400 mA	DC PLATE CURRENT 0.40 AMPERE Max. Sig, Plate Current 666 mAdc
DC PLATE CURRENT [2]	666 A	DC PLATE CURRENT 0.40 AMPERE Max. Sig, Plate Current 666 mAdc
PLATE DISSIPATION [1]	400 W	PLATE DISSIPATION 400 WATTS Max. Sig. Grid Current! 240 mAdc
PLATE DISSIPATION [2]	240 W	PLATE DISSIPATION 400 WATTS Max. Sig. Grid Current! 240 mAdc
GRID DISSIPATION	20 W	GRID DISSIPATION 20 WATTS
DrivingPower1	26	DrivingPower1. 26 W
Peak af Driving Voltage(per tube)l	88	Peak af Driving Voltage(per tube)l. . . 88 v
Load Resistance, Plate/Plate	9500	Load Resistance, Plate/Plate 9500 £}
Max. Sig. Plate Output Power1, . . ,	1310	Max. Sig. Plate Output Power1, . . , . 1310 W
Plate Voltage	3000	Plate Voltage 3000 Vdc
Plate Current	333	Plate Current 333 mAdc
DC PLATE VOLTAGE [1]	4000 V	DC PLATE VOLTAGE 4000 VOLTS GridVoltage -75 Vdc
DC PLATE VOLTAGE [2]	-75 V	DC PLATE VOLTAGE 4000 VOLTS GridVoltage -75 Vdc
DC PLATECURRENT [1]	350 mA	DC PLATECURRENT 0.35 AMPERE GridCurrent?. 130 mAdc

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
DC PLATECURRENT [2]	130 A	DC PLATECURRENT 0.35 AMPERE GridCurrent? 130 mAdc
PLATE DISSIPATION [1]	400 W	PLATE DISSIPATION 400 WATTS Peak rf Grid Voltage1 187 v
PLATE DISSIPATION [2]	187 W	PLATE DISSIPATION 400 WATTS Peak rf Grid Voltage1 187 v
GRID DISSIPATION [1]	20 W	GRID DISSIPATION 20 WATTS Grid Driving Power1 ., ... 25 W
GRID DISSIPATION [2]	25 W	GRID DISSIPATION 20 WATTS Grid Driving Power1 ., ... 25 W
Plate Output Power1	730	Plate Output Power1 730 W
Plate Voltage	3000	Plate Voltage 3000 Vdc
Plate Current	245	Plate Current 245 mAdc
DC PLATE VOLTAGE [1]	3000 V	DC PLATE VOLTAGE 3000 vOLTS Grid Voltage : -90 Vdc
DC PLATE VOLTAGE [2]	-90 V	DC PLATE VOLTAGE 3000 vOLTS Grid Voltage : -90 Vdc
DC PLATE CURRENT [1]	275 mA	DC PLATE CURRENT 0.275 AMPERE Grid Current? 100 mAdc
DC PLATE CURRENT [2]	100 A	DC PLATE CURRENT 0.275 AMPERE Grid Current? 100 mAdc
PLATE DISSIPATION [1]	270 W	PLATE DISSIPATION 270 WATTS Peak rf Grid Voltage2, ... 185 v
PLATE DISSIPATION [2]	185 W	PLATE DISSIPATION 270 WATTS Peak rf Grid Voltage2, ... 185 v
GRID DISSIPATION	20 W	GRID DISSIPATION 20 WATTS
Grid Driving Power2 .,	18	Grid Driving Power2 ., ... 18 W
Published value [1]	1	1. Drive modulation is required with a high-mu triode. Plate Output Power2 550 W
Published value [2]	550	1. Drive modulation is required with a high-mu triode. Plate Output Power2 550 W
Filament Current, at [1]	5 V	Filament Current, at 5.0 volts i it ittt ittt et ee e 13.5 147 A
Filament Current, at [2]	13.5 V	Filament Current, at 5.0 volts i it ittt ittt et ee e 13.5 147 A
Filament Current, at [3]	147 V	Filament Current, at 5.0 volts i it ittt ittt et ee e 13.5 147 A
Zero Bias Plate Current (Eb = [1])	3000	Zero Bias Plate Current (Eb = 3000 Vdc) . . . e e e e 80 115 mAdc

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Zero Bias Plate Current (Eb = [2])	80	Zero Bias Plate Current (Eb = 3000 Vdc) ... e e e 80 115 mAdc
Zero Bias Plate Current (Eb = [3])	115	Zero Bias Plate Current (Eb = 3000 Vdc) ... e e e 80 115 mAdc
Cut-Off Voltage (Ep = [1])	3000	Cut-Off Voltage (Ep = 3000 Vdc, Ip = 1.0mAdc) e e --- -25 Vdc

TUBE TINKER

An independent reference for electronic tubes, vacuum tubes, and their source documents.

[Catalog](#) [Tube types](#) [Full books](#) [Blog](#) [Feedback & corrections](#)

© 2026 Tube Tinker