



ELECTRONIC TUBE REFERENCE

304TH

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

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

TRIODE

Eimac medium-mu power triode for audio power amplification, modulation, RF amplification, and oscillator service. With about 300 W plate dissipation and 3 kV capability, it provides substantial linear or transmitting power through roughly 40 MHz.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	—
NOMINAL HEATER	10 V / 12.5 A	PARALLEL HEATER	5 V / 25 A
HEATING	Direct	SERIES OPERATION	Capable
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION 1 Triode	
TRANSCONDUCTANCE	0.0167 S
AMPLIFICATION FACTOR	20
MAXIMUM PLATE VOLTAGE	3000 V
MAXIMUM PLATE DISSIPATION	300 W
<i>Published maximum ratings and characteristics audited; additional applicable numerical data retained in parameter table.</i>	

The Eimac 304TH is a medium-mu power triode for audio-frequency power-amplifier or modulator and radio-frequency power-amplifier or oscillator service.

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1950 Eimac Tubes

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

1950 EIMAC TUBES

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Current [1]	25 A	Current - - 25.0 or 12.5 amperes
Current [2]	12.5 A	Current - - 25.0 or 12.5 amperes
Grid -Pla te [1]	10	Grid -Pla te 10 .2 fL fL f
Grid -Pla te [2]	2	Grid -Pla te 10 .2 fL fL f
Grid-Filament	13.5	Grid-Filament 13.5 fL fL f
Plate-Filament [1]	0	Plate-Filament - 0 .7 fL fL f
Plate-Filament [2]	7	Plate-Filament - 0 .7 fL fL f
Transconductance ([1]	1	Transconductance (1 \)=1 .0 amp., E\)=3000, e c =-40) 16,700 fLmhos
Transconductance ([2]	1	Transconductance (1 \)=1 .0 amp., E\)=3000, e c =-40) 16,700 fLmhos
Transconductance ([3]	0	Transconductance (1 \)=1 .0 amp., E\)=3000, e c =-40) 16,700 fLmhos
Transconductance ([4]	3000	Transconductance (1 \)=1 .0 amp., E\)=3000, e c =-40) 16,700 fLmhos
Transconductance ([5]	-40	Transconductance (1 \)=1 .0 amp., E\)=3000, e c =-40) 16,700 fLmhos
Transconductance ([6]	16700	Transconductance (1 \)=1 .0 amp., E\)=3000, e c =-40) 16,700 fLmhos
Frequency for Maximum Ratings	40 MHz	Frequency for Maximum Ratings 40 mc
D-C Pla te Voltage [1]	1500 V	D-C Pla te Voltage 1500 2000 3000 3000 volts
D-C Pla te Voltage [2]	2000 V	D-C Pla te Voltage 1500 2000 3000 3000 volts
D-C Pla te Voltage [3]	3000 V	D-C Pla te Voltage 1500 2000 3000 3000 volts
D-C Pla te Voltage [4]	3000 V	D-C Pla te Voltage 1500 2000 3000 3000 volts

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Max.-Signal D-C Plate Cu rren t, pe r tube" - • • •	900	Max.-Signal D-C Plate Cu rren t, pe r tube" - • • • 900 ma o
Plate Dissipation, pe r tube " • • •	300 W	Plate Dissipation, pe r tube " • • • 300 watts
D-C Grid Voltage (approx.) [1]	-65 V	D-C Grid Voltage (approx.) -65 -90 -150 volts
D-C Grid Voltage (approx.) [2]	-90 V	D-C Grid Voltage (approx.) -65 -90 -150 volts
D-C Grid Voltage (approx.) [3]	-150 V	D-C Grid Voltage (approx.) -65 -90 -150 volts
Peak A -F Grid Inpu t Voltage [1]	330 V	Peak A -F Grid Inpu t Voltage 330 350 420 volts
Peak A -F Grid Inpu t Voltage [2]	350 V	Peak A -F Grid Inpu t Voltage 330 350 420 volts
Peak A -F Grid Inpu t Voltage [3]	420 V	Peak A -F Grid Inpu t Voltage 330 350 420 volts
Zero-Signal D-C Plate Curren t [1]	267	Zero-Signal D-C Plate Curren t - 267 200 134 ma o
Zero-Signal D-C Plate Curren t [2]	200	Zero-Signal D-C Plate Curren t - 267 200 134 ma o
Zero-Signal D-C Plate Curren t [3]	134	Zero-Signal D-C Plate Curren t - 267 200 134 ma o
Max.-Signal Driv ing Power (ap p rox .) [1]	17 W	Max.-Signal Driv ing Power (ap p rox .) - 17 12 6 wat ts
Max.-Signal Driv ing Power (ap p rox .) [2]	12 W	Max.-Signal Driv ing Power (ap p rox .) - 17 12 6 wat ts
Max.-Signal Driv ing Power (ap p rox .) [3]	6 W	Max.-Signal Driv ing Power (ap p rox .) - 17 12 6 wat ts
Effective Load, Plate-to-Pla te [1]	2840	Effective Load, Plate-to-Pla te - 2840 4820 10200 ohms
Effective Load, Plate-to-Pla te [2]	4820	Effective Load, Plate-to-Pla te - 2840 4820 10200 ohms
Effective Load, Plate-to-Pla te [3]	10200	Effective Load, Plate-to-Pla te - 2840 4820 10200 ohms
Max.-Signal Plate Powe r Outpu t [1]	1000	Max.-Signal Plate Powe r Outpu t 1000 1200 1400 wat ts
Max.-Signal Plate Powe r Outpu t [2]	1200	Max.-Signal Plate Powe r Outpu t 1000 1200 1400 wat ts
Max.-Signal Plate Powe r Outpu t [3]	1400	Max.-Signal Plate Powe r Outpu t 1000 1200 1400 wat ts

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
D-C Plate Vol tage [1]	1500	D-C Plate Vol tage 1500 2000 3000 3000 volts
D-C Plate Vol tage [2]	2000	D-C Plate Vol tage 1500 2000 3000 3000 volts
D-C Plate Vol tage [3]	3000	D-C Plate Vol tage 1500 2000 3000 3000 volts
D-C Plate Vol tage [4]	3000	D-C Plate Vol tage 1500 2000 3000 3000 volts
D-C Plate Current [1]	667 mA	D-C Plate Current 667 600 500 900 ma o
D-C Plate Current [2]	600 mA	D-C Plate Current 667 600 500 900 ma o
D-C Plate Current [3]	500 mA	D-C Plate Current 667 600 500 900 ma o
D-C Plate Current [4]	900 mA	D-C Plate Current 667 600 500 900 ma o
D-C Grid Current [1]	115 mA	D-C Grid Current 115 125 135 170 mao
D-C Grid Current [2]	125 mA	D-C Grid Current 115 125 135 170 mao
D-C Grid Current [3]	135 mA	D-C Grid Current 115 125 135 170 mao
D-C Grid Current [4]	170 mA	D-C Grid Current 115 125 135 170 mao
D-C Grid Voltage [1]	-125 V	D-C Grid Voltage -125 -200 -300 volts
D-C Grid Voltage [2]	-200 V	D-C Grid Voltage -125 -200 -300 volts
D-C Grid Voltage [3]	-300 V	D-C Grid Voltage -125 -200 -300 volts
Plate Power Outpu t [1]	700 W	Plate Power Outpu t - 700 900 1200 watts
Plate Power Outpu t [2]	900 W	Plate Power Outpu t - 700 900 1200 watts
Plate Power Outpu t [3]	1200 W	Plate Power Outpu t - 700 900 1200 watts
Plate Input [1]	1000	Plate Input 1000 1200 1500 watts
Plate Input [2]	1200	Plate Input 1000 1200 1500 watts
Plate Input [3]	1500	Plate Input 1000 1200 1500 watts
Plate Dissipation [1]	300 W	Plate Dissipation - 300 300 300 300 watts
Plate Dissipation [2]	300 W	Plate Dissipation - 300 300 300 300 watts
Plate Dissipation [3]	300 W	Plate Dissipation - 300 300 300 300 watts
Plate Dissipation [4]	300 W	Plate Dissipation - 300 300 300 300 watts
Peak R. F. Grid Input Voltage, (approx.) [1]	250 V	Peak R. F. Grid Input Voltage, (approx.) - 250 325 395 volts
Peak R. F. Grid Input Voltage, (approx.) [2]	325 V	Peak R. F. Grid Input Voltage, (approx.) - 250 325 395 volts
Peak R. F. Grid Input Voltage, (approx.) [3]	395 V	Peak R. F. Grid Input Voltage, (approx.) - 250 325 395 volts
Driving Power, (approx.l [1]	25 W	Driving Power, (approx.l 25 39 53 watts
Driving Power, (approx.l [2]	39 W	Driving Power, (approx.l 25 39 53 watts

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Driving Power, (approx. l [3]	53 W	Driving Power, (approx. l 25 39 53 watts
power output and grid driving power ~ [1]	70 W	power output and grid driving power ~ 70 i,MA C 304TN-+-
power output and grid driving power ~ [2]	304 W	power output and grid driving power ~ 70 i,MA C 304TN-+-
at plate voltages of [1]	1500	at plate voltages of 1500, 20 00 and a:
at plate voltages of [2]	20	at plate voltages of 1500, 20 00 and a:
at plate voltages of [3]	0	at plate voltages of 1500, 20 00 and a:
binned grid and bias losses only. The (!) P.. " [1]	2	binned grid and bias losses only. The (!) P.. "2 8 0 W 70 125
binned grid and bias losses only. The (!) P.. " [2]	8	binned grid and bias losses only. The (!) P.. "2 8 0 W 70 125
binned grid and bias losses only. The (!) P.. " [3]	0	binned grid and bias losses only. The (!) P.. "2 8 0 W 70 125
binned grid and bias losses only. The (!) P.. " [4]	70	binned grid and bias losses only. The (!) P.. "2 8 0 W 70 125
binned grid and bias losses only. The (!) P.. " [5]	125	binned grid and bias losses only. The (!) P.. "2 8 0 W 70 125
Published value	-1	-1 PLATE



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

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Frequency for Maximum Ratings	40 MHz	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum DC Plate Current	900 mA	—

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-Plate Capacitance	10.2 pF	—
Grid-Filament Capacitance	13.5 pF	—
Plate-Filament Capacitance	0.7 pF	—