



ELECTRONIC TUBE REFERENCE

35TG

Power - Triode electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

TRIODE

Eimac high-mu transmitting triode for modulator, oscillator, and amplifier service. Its roughly 50 W plate dissipation and 2 kV plate rating provide useful medium-power capability in both RF transmitter and audio-frequency modulator stages.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	4
NOMINAL HEATER	5 V / 4.2 A	PARALLEL HEATER	— / —
HEATING	Direct	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION 1 Triode	
TRANSCONDUCTANCE	0.00285 S
AMPLIFICATION FACTOR	43
MAXIMUM PLATE VOLTAGE	2000 V
MAXIMUM PLATE DISSIPATION	50 W
MAXIMUM GRID DISSIPATION	15 W
Single triode section; promoted values mapped from printed General Characteristics and Maximum Ratings headings.	

The EIMAC 35TG is a high-mu transmitting triode for modulator, oscillator, and 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

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
The EIMAC 35TG is a high-mu triode having a maximum plate dissipation of 50 watts. It is	35 a	The EIMAC 35TG is a high-mu triode having a maximum plate dissipation of 50 watts. It is
Voltage	5 volts	GeneralCharacteristics Voltage - - - - - - - 5.0 volts
Current	386 amps	GeneralCharacteristics Current - - - - - . - 386 4.2 amps
Amplification Factor	35	GeneralCharacteristics Amplification Factor - - - - - - - . 35 43
Grid-Plate	125 pF	GeneralCharacteristics Grid-Plate - - - - - - . : 125 2.05 pF
Grid-Filament	200 pF	GeneralCharacteristics Grid-Filament - - - - - - - - - - 200 3.20 pF
Plate-Filament	10 pF	GeneralCharacteristics Plate-Filament - - - - - - - - - - 010 0.35 pF
Transconductance (I,	100 mA	GeneralCharacteristics Transconductance (I, — 100 mA) S 2850 umhos

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
at frequencies up to 100 MHz. It is basically the same as the EIMAC 35T except that the grid	100 MHz	MaximumRatings at frequencies up to 100 MHz. It is basically the same as the EIMAC 35T except that the grid
Length	55 inches	Length - - - - -« - - - - - 55 inches
Diameter	18 inches	Diameter - - - - - - 18 inches

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Net weight	4 ounces	Net weight - - - - = - - - - - 4 - 4 - - 4 - - - - - - - - 25 ounces
Shipping weight (Average)	125 pounds	Shipping weight (Average)- - - - - = = - = - - - - « - - - - - - - 125 pounds
AND MODULATOR DC Plate Voltage	6001000 volts	AUDIO-FREQUENCY POWER AMPLIFIER TYPICAL OPERATION AND MODULATOR DC Plate Voltage - - - - 6001000 1500 2000 volts
DC Grid Voltage (approx.)* 0 -8 -25 -40 volts	0 volts	AUDIO-FREQUENCY POWER AMPLIFIER TYPICAL OPERATION DC Grid Voltage (approx.)* 0 -8 -25 -40 volts
Class AB (Sinusoidal wave, two tubes unless otherwise Zero-signal DC Plate Current 90 67 45 34 mA	90 mA	AUDIO-FREQUENCY POWER AMPLIFIER TYPICAL OPERATION Class AB (Sinusoidal wave, two tubes unless otherwise Zero-signal DC Plate Current 90 67 45 34 mA
specified) Max-signal DC Plate Current 300 240 200 167 mA	300 mA	AUDIO-FREQUENCY POWER AMPLIFIER TYPICAL OPERATION specified) Max-signal DC Plate Current 300 240 200 167 mA
Effective Load Plate-to-Plate 4250 7900 16,200 27,500 ohms	4250 ohms	AUDIO-FREQUENCY POWER AMPLIFIER TYPICAL OPERATION Effective Load Plate-to- Plate 4250 7900 16,200 27,500 ohms
DC Plate Voltage	2000 volts	MaximumRatings DC Plate Voltage - - - - - 2000 volts (per tube) - - - - - 130 240 250 255 volts
DC Plate Current	150 mA	MaximumRatings DC Plate Current - - - - - 150 mA Peak Driving Power (approx.) 18 14 10 8 watts
Plate Dissipation	50 watts	MaximumRatings Plate Dissipation - - - - - 50 watts Nominal Driving Power {app.) 9 7 5 4 watts
Grid Dissipation	15 watts	MaximumRatings Grid Dissipation - - - - - 15 watts Max-signal Plate Power Output 95 140 200 235 watts
AND OSCILLATOR DC Plate Voltage	1000 volts	RADIO FREQUENCY POWER AMPLIFIER TYPICAL OPERATION AND OSCILLATOR DC Plate Voltage - - - - - 1000 1500 2000 volts
DC Grid Voltage	80 volts	RADIO FREQUENCY POWER AMPLIFIER TYPICAL OPERATION DC Grid Voltage - - - - - -80 -120 -135 volts
Class-C Telegraphy or FM Telephony DC Plate Current	125 mA	RADIO FREQUENCY POWER AMPLIFIER TYPICAL OPERATION Class-C Telegraphy or FM Telephony DC Plate Current - - - - - 125 125 125 mA

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
)1 DC Grid Current	1 mA	RADIO FREQUENCY POWER AMPLIFIER TYPICAL OPERATION)1 DC Grid Current -- = o 40 40 45 mA
Peak RF Grid Input Voltage	165 volts	RADIO FREQUENCY POWER AMPLIFIER TYPICAL OPERATION Peak RF Grid Input Voltage -- 165 250 285 volts
DC Plate Voltage	2000 volts	MaximumRatings DC Plate Voltage ----- 2000 volts Grid Dissipation ----- 42 50 6.8 watts
DC Plate Current	150 mA	MaximumRatings DC Plate Current ----- 150 mA Plate Power Input ----- 125 188 250 watts
Plate Dissipation	50 watts	MaximumRatings Plate Dissipation ----- 50 watts Plate Dissipation ----- 38 47 50 watts
Grid Dissipation	15 watts	MaximumRatings Grid Dissipation ----- 15 watts Plate Power Output ---- 87 141 200 watts
POWER AMPLIFIER DC Plate Voltage	750 volts	PLATE MODULATED RADIO FREQUENCY TYPICAL OPERATION POWER AMPLIFIER DC Plate Voltage ----- 750 1000 1500 volts
DC Grid Voltage	100 volts	PLATE MODULATED RADIO FREQUENCY TYPICAL OPERATION DC Grid Voltage ----- =100 —125 —150 volts
)1 DC Plate Current	1 mA	PLATE MODULATED RADIO FREQUENCY TYPICAL OPERATION)1 DC Plate Current --- -- 95 100 90 mA
DC Grid Current	40 mA	PLATE MODULATED RADIO FREQUENCY TYPICAL OPERATION DC Grid Current -- S 40 40 40 mA
DC Plate Voltage	1600 volts	MaximumRatings DC Plate Voltage ----- « -- 1600 volts Driving Power (approx.) --- 9 10 11 watts
DC Plate Current	120 mA	MaximumRatings DC Plate Current ----- . 120 mA Plate Dissipation ----- 20 25 30 watts
Plate Input	70 watts	MaximumRatings Plate Input ----- 70 100 135 watts
Plate Dissipation	33 watts	MaximumRatings Plate Dissipation ----- 33 watts Plate Power Output ---- 50 75 105 watts
Grid Dissipation	15 watts	MaximumRatings Grid Dissipation ----- 15 watts "Adjust for stated zero-signal plate current.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
(Revised 6-1-67) (© 1958, 1967 by Varian Printed in U.S.A	6 A	1 The performance figures listed under Typical Operation are for radio frequencies up to the VHF region and are obtained by cal- (Revised 6-1-67) (© 1958, 1967 by Varian Printed in U.S.A.
{ *A 5 38 5 3	5 A	1 The performance figures listed under Typical Operation are for radio frequencies up to the VHF region and are obtained by cal- { *A 5 38 5 3
the relationship of plate efficiency, = IEb Enlggc? 3:?: I'S:E	3	1 The performance figures listed under Typical Operation are for radio frequencies up to the VHF region and are obtained by cal- the relationship of plate efficiency, = IEb Enlggc? 3:?: I'S:E
2000 volts. These charts show com- ng_ ===/ el	2000 volts	1 The performance figures listed under Typical Operation are for radio frequencies up to the VHF region and are obtained by cal- 2000 volts. These charts show com- ng_ ===/ el
Points A, B, and C are identical to the 50 Amal	50 A	1 The performance figures listed under Typical Operation are for radio frequencies up to the VHF region and are obtained by cal- Points A, B, and C are identical to the 50 Amal
1500, and 2000 volts respectively. H	1500 volts	1 The performance figures listed under Typical Operation are for radio frequencies up to the VHF region and are obtained by cal- 1500, and 2000 volts respectively. H
';h'a-\l :s Y&? . ';.5] CURVE s W-gt	5 a	1 The performance figures listed under Typical Operation are for radio frequencies up to the VHF region and are obtained by cal- ';h'a-\l :s Y&? . ';.5] CURVE s W-gt
— —] so 130 1} o I A .88 1180 ;1]	130 A	1 The performance figures listed under Typical Operation are for radio frequencies up to the VHF region and are obtained by cal- — —] so 130 1} o I A .88 1180 ;1]
a 78 120 a e === :: :'::: H	78 a	1 The performance figures listed under Typical Operation are for radio frequencies up to the VHF region and are obtained by cal- a 78 120 a e === :: :'::: H
D e Rr38W e 1o 28 Dies A —[70]- 70 H	8 A	1 The performance figures listed under Typical Operation are for radio frequencies up to the VHF region and are obtained by cal- D e Rr38W e 1o 28 Dies A —[70]- 70 H



1965 Eimac Tube Manual

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

1965 EIMAC TUBE MANUAL

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
The EIMAC [1]	35 W	The EIMAC 35TG is a high-mu triode having a maximum plate dissipation of 50 watts. It is
The EIMAC [2]	50 W	The EIMAC 35TG is a high-mu triode having a maximum plate dissipation of 50 watts. It is
at frequencies up to 100 MHz. It is basically the same as the EIMAC	35 MHz	at frequencies up to 100 MHz. It is basically the same as the EIMAC 35T except that the grid
Current [1]	3.6 A	Current----- 3.6 4.2 amps
Current [2]	4.2 A	Current----- 3.6 4.2 amps
Grid-Plate----- I [1]	25	Grid-Plate----- 1.25 2.05 pF
Grid-Plate----- I [2]	2.05	Grid-Plate----- 1.25 2.05 pF
Grid-Filament [1]	2	Grid-Filament----- 2.00 3.20 pF
Grid-Filament [2]	3.2	Grid-Filament----- 2.00 3.20 pF
Plate-Filament [1]	0.1	Plate-Filament----- 0.10 0.35 pF
Plate-Filament [2]	0.35	Plate-Filament----- 0.10 0.35 pF
Transconductance (I _b = 100 mA)	2850 mA/V	Transconductance (I _b = 100 mA) ----- 2850 umhos
Frequency for Maximum Ratings	100 MHz	Frequency for Maximum Ratings ----- 100 MHz
Recommended Heat Dissipating plate connector ----- EIMAC HR	3	Recommended Heat Dissipating plate connector ----- EIMAC HR-3
AND MODULATOR DCplatevoltage [1]	60010001500 V	AND MODULATOR DCplatevoltage ---- 60010001500 2000 volts
AND MODULATOR DCplatevoltage [2]	2000 V	AND MODULATOR DCplatevoltage ---- 60010001500 2000 volts
DCGridvoltage (approx.)# [1]	0 V	DCGridvoltage (approx.)# 0 -8 -25 -40 volts
DCGridvoltage (approx.)# [2]	-8 V	DCGridvoltage (approx.)# 0 -8 -25 -40 volts

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
DCGridvoltage (approx.)# [3]	-25 V	DCGridvoltage (approx.)# 0 -8 -25 -40 volts
DCGridvoltage (approx.)# [4]	-40 V	DCGridvoltage (approx.)# 0 -8 -25 -40 volts
Class AB (Sinusoidal wave, two tubes unless otherwise Zero-signal DC plate current [1]	90 A	Class AB (Sinusoidal wave, two tubes unless otherwise Zero-signal DC plate current 90 67 45 34 rnA
Class AB (Sinusoidal wave, two tubes unless otherwise Zero-signal DC plate current [2]	67 A	Class AB (Sinusoidal wave, two tubes unless otherwise Zero-signal DC plate current 90 67 45 34 rnA
Class AB (Sinusoidal wave, two tubes unless otherwise Zero-signal DC plate current [3]	45 A	Class AB (Sinusoidal wave, two tubes unless otherwise Zero-signal DC plate current 90 67 45 34 rnA
Class AB (Sinusoidal wave, two tubes unless otherwise Zero-signal DC plate current [4]	34 A	Class AB (Sinusoidal wave, two tubes unless otherwise Zero-signal DC plate current 90 67 45 34 rnA
specified) Max-signalDCplatecurrent [1]	300 mA	specified) Max-signalDCplatecurrent 300 240 200 167 rnA
specified) Max-signalDCplatecurrent [2]	240 mA	specified) Max-signalDCplatecurrent 300 240 200 167 rnA
specified) Max-signalDCplatecurrent [3]	200 mA	specified) Max-signalDCplatecurrent 300 240 200 167 rnA
specified) Max-signalDCplatecurrent [4]	167 mA	specified) Max-signalDCplatecurrent 300 240 200 167 rnA
Effective Load Plate-to-Plate [1]	4250	Effective Load Plate-to-Plate 4250 7900 16,200 27,500 ohms
Effective Load Plate-to-Plate [2]	7900	Effective Load Plate-to-Plate 4250 7900 16,200 27,500 ohms
Effective Load Plate-to-Plate [3]	16200	Effective Load Plate-to-Plate 4250 7900 16,200 27,500 ohms
Effective Load Plate-to-Plate [4]	27500	Effective Load Plate-to-Plate 4250 7900 16,200 27,500 ohms
DCplatevoltage [1]	2000 V	DCplatevoltage ----- 2000 volts (per tube) ----- 255 volts
DCplatevoltage [2]	255 V	DCplatevoltage ----- 2000 volts (per tube) ----- 255 volts
DCplatecurrent [1]	150 A	DCplatecurrent ----- 150 rnA Peak Driving Power (approx.) 8 watts

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
DCplatecurrent [2]	8 A	DCplatecurrent ----- 150 rnA Peak Driving Power (approx.) 8 watts
Plate Dissipation [1]	50 W	Plate Dissipation ----- 50 watts Nominal Driving Power (app.) 4 watts
Plate Dissipation [2]	4 W	Plate Dissipation ----- 50 watts Nominal Driving Power (app.) 4 watts
GridDissipation [1]	15 W	GridDissipation ----- 15 watts Max-signal Plate Power Output 235 watts
GridDissipation [2]	235 W	GridDissipation ----- 15 watts Max-signal Plate Power Output 235 watts
AND OSCILLATOR DCplatevoltage [1]	1000 V	AND OSCILLATOR DCplatevoltage --- 1000 1500 2000 volts
AND OSCILLATOR DCplatevoltage [2]	1500 V	AND OSCILLATOR DCplatevoltage --- 1000 1500 2000 volts
AND OSCILLATOR DCplatevoltage [3]	2000 V	AND OSCILLATOR DCplatevoltage --- 1000 1500 2000 volts
DCGridvoltage [1]	-60 V	DCGridvoltage --- -60 -120 -135 volts
DCGridvoltage [2]	-120 V	DCGridvoltage --- -60 -120 -135 volts
DCGridvoltage [3]	-135 V	DCGridvoltage --- -60 -120 -135 volts
Class-C Telegraphy or FM Telephony DCplatecurrent [1]	125 A	Class-C Telegraphy or FM Telephony DCplatecurrent --- 125 125 125 rnA
Class-C Telegraphy or FM Telephony DCplatecurrent [2]	125 A	Class-C Telegraphy or FM Telephony DCplatecurrent --- 125 125 125 rnA
Class-C Telegraphy or FM Telephony DCplatecurrent [3]	125 A	Class-C Telegraphy or FM Telephony DCplatecurrent --- 125 125 125 rnA
(Key-down conditions, per tube) [1]	1 mA	(Key-down conditions, per tube) 1 DCGridcurrent --- 4040 45mA