



ELECTRONIC TUBE REFERENCE

3X3000F7

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

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

TRIODE

Eimac external-anode high-mu zero-bias triode for Class B audio and RF amplification. Its very high amplification factor permits zero-bias operation, while grounded-grid circuits provide high power gain with approximately 3 kW plate dissipation.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	—
NOMINAL HEATER	7.5 V / 51 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	5000 V
MAXIMUM PLATE DISSIPATION	3000 W
MAXIMUM GRID DISSIPATION	225 W
MAXIMUM CATHODE CURRENT	2.5 A
<i>Promoted maximum ratings/characteristics populated from published headings; service-specific values retained in parameters.</i>	

The Eimac 8162/3X3000F7 is an external-anode power triode intended to be used as a zero-bias Class-B amplifier in audio or radio-frequency applications. Operation with zero grid bias offers circuit simplicity by eliminating the bias supply. In addition, grounded-grid operation is attractive since a power gain of over twenty times can be obtained with the 8162/3X3000F7.

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]	8162	The Eimac 8162/3X3000F7 is an external-anode power triode
The Eimac [2]	3	The Eimac 8162/3X3000F7 is an external-anode power triode
The Eimac [3]	0	The Eimac 8162/3X3000F7 is an external-anode power triode
Voltage	7.5 V	Voltage - - - 7.5 volts
Current = = =	51 A	Current = = = - 51 amperes = T
Amplification Factor	200	Amplification Factor - - - 200 &
Frequency for Maximum Ratings = =	30 MHz	Frequency for Maximum Ratings = = 30 Mc
MAXIMUM RATINGS (Per Tube) D-C Plate Voltage	4000	MAXIMUM RATINGS (Per Tube) D-C Plate Voltage 4000 wvolts
D-C PIATE VOLTAGE [1]	5000 V	D-C PIATE VOLTAGE 5000 VOLTS D-C Grid Voltage 0 volts
D-C PIATE VOLTAGE [2]	0 V	D-C PIATE VOLTAGE 5000 VOLTS D-C Grid Voltage 0 volts
D-C PLATE CURRENT [1]	2.5 A	D-C PLATE CURRENT 2.5 AMPS Zero-8ig D-C Plate Current* 0.640 amps
D-C PLATE CURRENT [2]	8 A	D-C PLATE CURRENT 2.5 AMPS Zero-8ig D-C Plate Current* 0.640 amps
D-C PLATE CURRENT [3]	640 mA	D-C PLATE CURRENT 2.5 AMPS Zero-8ig D-C Plate Current* 0.640 amps
PLATE DISSIPATION [1]	3 A	PLATE DISSIPATION 3 KW Max-Sig D-C Plate Current 4.00 amps
PLATE DISSIPATION [2]	4 A	PLATE DISSIPATION 3 KW Max-Sig D-C Plate Current 4.00 amps

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
GRID DISSIPATION [1]	225 A	GRID DISSIPATION 225 WATTS Max-8Sig D-C Grid Current 0.860 -amps
GRID DISSIPATION [2]	8 A	GRID DISSIPATION 225 WATTS Max-8Sig D-C Grid Current 0.860 -amps
GRID DISSIPATION [3]	860 mA	GRID DISSIPATION 225 WATTS Max-8Sig D-C Grid Current 0.860 -amps
Driving Power	120 W	Driving Power 120 watts
Peak A-F Driving Voltage (per tube)	185	Peak A-F Driving Voltage (per tube) 185 wvolts
Load Resistance, Plate-to-Plate	2200 ohm	Load Resistance, Plate-to-Plate 2200 ohms
Max [1]	8 W	Max-8sig Plate Output Power 11,000 watts
Max [2]	11000 W	Max-8sig Plate Output Power 11,000 watts
MAXIMUM RATINGS D-C Plate Voltage [1]	4000	MAXIMUM RATINGS D-C Plate Voltage 4000 5000 wvolts
MAXIMUM RATINGS D-C Plate Voltage [2]	5000	MAXIMUM RATINGS D-C Plate Voltage 4000 5000 wvolts
D-C PLATE VOLTAGE [1]	5000 V	D-C PLATE VOLTAGE 5000 VOLTS Zero-Sig D-C Plate Current* 0.32 0.44 amps
D-C PLATE VOLTAGE [2]	0.32 V	D-C PLATE VOLTAGE 5000 VOLTS Zero-Sig D-C Plate Current* 0.32 0.44 amps
D-C PLATE VOLTAGE [3]	0.44 V	D-C PLATE VOLTAGE 5000 VOLTS Zero-Sig D-C Plate Current* 0.32 0.44 amps
D-C PLATE CURRENT [1]	2.5 A	D-C PLATE CURRENT 2.5 AMPS Max~Sig D-C Plate Current 2.00 1.56 amps
D-C PLATE CURRENT [2]	2 A	D-C PLATE CURRENT 2.5 AMPS Max~Sig D-C Plate Current 2.00 1.56 amps
D-C PLATE CURRENT [3]	1.56 A	D-C PLATE CURRENT 2.5 AMPS Max~Sig D-C Plate Current 2.00 1.56 amps
PLATE DISSIPATION [1]	3 A	PLATE DISSIPATION 3 KW Max-Sig D-C Grid Current 0.42 0.33 amps
PLATE DISSIPATION [2]	420 mA	PLATE DISSIPATION 3 KW Max-Sig D-C Grid Current 0.42 0.33 amps
PLATE DISSIPATION [3]	330 mA	PLATE DISSIPATION 3 KW Max-Sig D-C Grid Current 0.42 0.33 amps
GRID DISSIPATION [1]	225 W	GRID DISSIPATION 225 WATTS Driving Impedance 50 50 ohms
GRID DISSIPATION [2]	50 W	GRID DISSIPATION 225 WATTS Driving Impedance 50 50 ohms

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
GRID DISSIPATION [3]	50 W	GRID DISSIPATION 225 WATTS Driving Impedance 50 50 ohms
Resonant Load Impedance [1]	1120 ohm	Resonant Load Impedance 1120 1850 ohms
Resonant Load Impedance [2]	1850 ohm	Resonant Load Impedance 1120 1850 ohms
Max-Sig Driving Power [1]	360 W	Max-Sig Driving Power 360 215 watts
Max-Sig Driving Power [2]	215 W	Max-Sig Driving Power 360 215 watts
Power [1]	5500 W	Power 5500 5500 watts
Power [2]	5500 W	Power 5500 5500 watts
Power Gain [1]	15.3	Power Gain 15.3 25.6 times
Power Gain [2]	25.6	Power Gain 15.3 25.6 times
MAXIMUM RATINGS D~-C Plate Voltage	4000	MAXIMUM RATINGS D~-C Plate Voltage 4000 wvolts
D-C PLATE VOLTAGE [1]	5000 V	D-C PLATE VOLTAGE 5000 VOLTS D-C Grid Voltage 0 wvolts
D-C PLATE VOLTAGE [2]	0 V	D-C PLATE VOLTAGE 5000 VOLTS D-C Grid Voltage 0 wvolts
D-C PILATE CURRENT [1]	2.5 A	D-C PILATE CURRENT 2.5 AMPS Zero-Sig D-C Plate Current* 0.32 amps
D-C PILATE CURRENT [2]	320 mA	D-C PILATE CURRENT 2.5 AMPS Zero-Sig D-C Plate Current* 0.32 amps
PLATE DISSIPATION [1]	3 A	PLATE DISSIPATION 3 KW D-C Plate Current 0.815 amps
PLATE DISSIPATION [2]	815 mA	PLATE DISSIPATION 3 KW D-C Plate Current 0.815 amps
GRID DISSIPATION [1]	225 A	GRID DISSIPATION 225 WATTS D-C Grid Current 0.205 amps
GRID DISSIPATION [2]	205 mA	GRID DISSIPATION 225 WATTS D-C Grid Current 0.205 amps
Driving Impedance T	220 ohm	Driving Impedance T 220 ohms
Peak Driving Voltaget	160	Peak Driving Voltaget 160 wvolts
Driving Power	15 W	Driving Power 15 watts
Plate Output Power	1100 W	Plate Output Power 1100 watts
INPUT CIRCUIT - When the [1]	3	INPUT CIRCUIT - When the 3X3000F7 is operated as a grounded-grid r-f amplifier, the use

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
INPUT CIRCUIT - When the [2]	0	INPUT CIRCUIT - When the 3X3000F7 is operated as a grounded-grid r-f amplifier, the use
**Since the power dissipated by the filament is about	375 W	**Since the power dissipated by the filament is about 375 watts and
for an additional	600 W	for an additional 600 watts dissipation.



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

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

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater/filament voltage	7.5 V	—
Heater/filament current	51 A	—
Amplification factor	200	—

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Input/grid-cathode capacitance	38 pF	—
Output/plate-cathode capacitance	0.6 pF	—
Feedback/grid-plate capacitance	24 pF	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum plate voltage	5000 V	—
Maximum plate dissipation	3000 W	—
Maximum grid dissipation	225 W	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum plate/cathode current	2.5 A	—
Frequency for maximum ratings	30 MHz	—
Typical grounded-grid plate voltage	5000 V	ClassB
Typical grounded-grid plate current	1.56 A	ClassB
Typical power gain	20 x	GroundedGrid