



ELECTRONIC TUBE REFERENCE

8161

Power - Triode electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

TRIODE

Forced-air-cooled all-ceramic/metal medium-mu transmitting triode with approximately 2.5 kW plate-dissipation capability for amplifier, oscillator, or modulator service.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	—
NOMINAL HEATER	7.5 V / 53 A	PARALLEL HEATER	— / —
HEATING	Direct	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION 1 Triode	
TRANSCONDUCTANCE	0.02 S
AMPLIFICATION FACTOR	20
MAXIMUM PLATE VOLTAGE	6000 V
MAXIMUM PLATE DISSIPATION	2500 W
MAXIMUM GRID DISSIPATION	150 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 3CX2500A3 is an all ceramic and metal, medium-mu, forced-air cooled, external anode transmitting triode with a maximum plate dissipation rating of 2500 watts. Relatively high power output as an amplifier, oscillator, or modulator may be obtained from this tube at low plate voltages. The 3CX2500A3 is an exact replacement for the EIMAC 3X2500A3 and is suggested for use where higher ambient temperatures are to be

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]	3	The EIMAC 3CX2500A3 is an all ceramic and metal, medium-mu,
The EIMAC [2]	500	The EIMAC 3CX2500A3 is an all ceramic and metal, medium-mu,
dissipation rating of	2500 W	dissipation rating of 2500 watts. Relatively high power output as an ampli-
voltages. The [1]	3	voltages. The 3CX2500A3 is an exact replacement for the EIMAC 3X2500A3
voltages. The [2]	500	voltages. The 3CX2500A3 is an exact replacement for the EIMAC 3X2500A3
voltages. The [3]	3	voltages. The 3CX2500A3 is an exact replacement for the EIMAC 3X2500A3
voltages. The [4]	500	voltages. The 3CX2500A3 is an exact replacement for the EIMAC 3X2500A3
Voltage	7.5 V	Voltage - - - - - 7.5 volts
Current [1]	49 A	Current - - - - - 49 53 amperes
Current [2]	53 A	Current - - - - - 49 53 amperes
Amplification Factor [1]	19	Amplification Factor - - - - - 19 26
Amplification Factor [2]	26	Amplification Factor - - - - - 19 26
Highest Frequency for Maximum Ratings	75 MHz	Highest Frequency for Maximum Ratings - 75 MHz
i li lifi DC Plate Voltage [1]	4000 V	i li lifi DC Plate Voltage - - - - - 4000 5000 6000 volts
i li lifi DC Plate Voltage [2]	5000 V	i li lifi DC Plate Voltage - - - - - 4000 5000 6000 volts
i li lifi DC Plate Voltage [3]	6000 V	i li lifi DC Plate Voltage - - - - - 4000 5000 6000 volts

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
C ^o pg\$gt;gzg'e':g'ggafig i DC Plate Current [1]	2.5 A	C ^o pg\$gt;gzg'e':g'ggafig i DC Plate Current - - - - - 2.5 2.5 2.08 amps
C ^o pg\$gt;gzg'e':g'ggafig i DC Plate Current [2]	2.5 A	C ^o pg\$gt;gzg'e':g'ggafig i DC Plate Current - - - - - 2.5 2.5 2.08 amps
C ^o pg\$gt;gzg'e':g'ggafig i DC Plate Current [3]	2.08 A	C ^o pg\$gt;gzg'e':g'ggafig i DC Plate Current - - - - - 2.5 2.5 2.08 amps
DC Grid Voltage [1]	300 V	DC Grid Voltage - - - - - 300 —450 —500 volts
DC Grid Voltage [2]	-450 V	DC Grid Voltage - - - - - 300 —450 —500 volts
DC Grid Voltage [3]	-500 V	DC Grid Voltage - - - - - 300 —450 —500 volts
Class-C FM or Telegraphy (Key-down DC Grid Current* [1])	245	Class-C FM or Telegraphy (Key-down DC Grid Current* 245 265 180
Class-C FM or Telegraphy (Key-down DC Grid Current* [2])	265	Class-C FM or Telegraphy (Key-down DC Grid Current* 245 265 180
Class-C FM or Telegraphy (Key-down DC Grid Current* [3])	180	Class-C FM or Telegraphy (Key-down DC Grid Current* 245 265 180
MAXIMUM RATINGS [1]	8 W	MAXIMUM RATINGS 8r\émg Power* - - - - - 142 197 136 watts
MAXIMUM RATINGS [2]	142 W	MAXIMUM RATINGS 8r\émg Power* - - - - - 142 197 136 watts
MAXIMUM RATINGS [3]	197 W	MAXIMUM RATINGS 8r\émg Power* - - - - - 142 197 136 watts
MAXIMUM RATINGS [4]	136 W	MAXIMUM RATINGS 8r\émg Power* - - - - - 142 197 136 watts
rid Dissipation* [1]	68 W	rid Dissipation* - - - - - 68 78 46 watts
rid Dissipation* [2]	78 W	rid Dissipation* - - - - - 68 78 46 watts
rid Dissipation* [3]	46 W	rid Dissipation* - - - - - 68 78 46 watts
DC PLATE VOLTAGE [1]	6000 V	DC PLATE VOLTAGE - 6000 VOLTS Plate Power Input - - - - - 10,000 12,500 12,500 watts
DC PLATE VOLTAGE [2]	10000 V	DC PLATE VOLTAGE - 6000 VOLTS Plate Power Input - - - - - 10,000 12,500 12,500 watts
DC PLATE VOLTAGE [3]	12500 V	DC PLATE VOLTAGE - 6000 VOLTS Plate Power Input - - - - - 10,000 12,500 12,500 watts
DC PLATE VOLTAGE [4]	12500 V	DC PLATE VOLTAGE - 6000 VOLTS Plate Power Input - - - - - 10,000 12,500 12,500 watts
DC PLATE CURRENT [1]	2.5 A	DC PLATE CURRENT - 2.5 AMPS Plate Dissipation - - - - - 2500 2500 . 2500 watts

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
DC PLATE CURRENT [2]	2500 A	DC PLATE CURRENT - 2.5 AMPS Plate Dissipation - - - - - 2500 2500 . 2500 watts
DC PLATE CURRENT [3]	2500 A	DC PLATE CURRENT - 2.5 AMPS Plate Dissipation - - - - - 2500 2500 . 2500 watts
DC PLATE CURRENT [4]	2500 A	DC PLATE CURRENT - 2.5 AMPS Plate Dissipation - - - - - 2500 2500 . 2500 watts
PLATE DISSIPATION [1]	2500 W	PLATE DISSIPATION - 2500 WATTS Plate Power Output - - - - - 7500 10,000 10,000 watts
PLATE DISSIPATION [2]	7500 W	PLATE DISSIPATION - 2500 WATTS Plate Power Output - - - - - 7500 10,000 10,000 watts
PLATE DISSIPATION [3]	10000 W	PLATE DISSIPATION - 2500 WATTS Plate Power Output - - - - - 7500 10,000 10,000 watts
PLATE DISSIPATION [4]	10000 W	PLATE DISSIPATION - 2500 WATTS Plate Power Output - - - - - 7500 10,000 10,000 watts
GRID DISSIPATION	150 W	GRID DISSIPATION - 150 WATTS *Approximate values.
FREQUENCY AMPLIFIER Bg I;Ilate \éoltage S [1]	4000 V	FREQUENCY AMPLIFIER Bg I;Ilate \éoltage S 4000 4500 5000 volts
FREQUENCY AMPLIFIER Bg I;Ilate \éoltage S [2]	4500 V	FREQUENCY AMPLIFIER Bg I;Ilate \éoltage S 4000 4500 5000 volts
FREQUENCY AMPLIFIER Bg I;Ilate \éoltage S [3]	5000 V	FREQUENCY AMPLIFIER Bg I;Ilate \éoltage S 4000 4500 5000 volts
ate Current [1]	1.67 A	. . . ate Current - - - - - 1.67 1.47 1.25 amps
ate Current [2]	1.47 A	. . . ate Current - - - - - 1.67 1.47 1.25 amps
ate Current [3]	1.25 A	. . . ate Current - - - - - 1.67 1.47 1.25 amps
oororrelized Amplifier, OC Grid Voltage [1]	450 V	oororrelized Amplifier, OC Grid Voltage - - - - - . 450 500 —550 volts
oororrelized Amplifier, OC Grid Voltage [2]	500 V	oororrelized Amplifier, OC Grid Voltage - - - - - . 450 500 —550 volts
oororrelized Amplifier, OC Grid Voltage [3]	-550 V	oororrelized Amplifier, OC Grid Voltage - - - - - . 450 500 —550 volts
q] o DC Grid Current* [1]	180 mA	q] o DC Grid Current* - - . . . 180 140 150 ma
q] o DC Grid Current* [2]	140 mA	q] o DC Grid Current* - - . . . 180 140 150 ma
q] o DC Grid Current* [3]	150 mA	q] o DC Grid Current* - - . . . 180 140 150 ma
Class-C Telephony (Carrier conditions, Peak RF Grid Input Voltage* [1]	685 V	Class-C Telephony (Carrier conditions, Peak RF Grid Input Voltage* - - - 685 715 760 volts

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Class-C Telephony (Carrier conditions, Peak RF Grid Input Voltage* [2]	715 V	Class-C Telephony (Carrier conditions, Peak RF Grid Input Voltage* - - - 685 715 760 volts
Class-C Telephony (Carrier conditions, Peak RF Grid Input Voltage* [3]	760 V	Class-C Telephony (Carrier conditions, Peak RF Grid Input Voltage* - - - 685 715 760 volts
per tube) Driving Power* - - - o [1]	125 W	per tube) Driving Power* - - - o 125 100 115 watts
per tube) Driving Power* - - - o [2]	100 W	per tube) Driving Power* - - - o 125 100 115 watts
per tube) Driving Power* - - - o [3]	115 W	per tube) Driving Power* - - - o 125 100 115 watts
MAXIMUM RATINGS Grid Dissipation®* [1]	43 W	MAXIMUM RATINGS Grid Dissipation®* - - - - . 43 30 32 watts
MAXIMUM RATINGS Grid Dissipation®* [2]	30 W	MAXIMUM RATINGS Grid Dissipation®* - - - - . 43 30 32 watts
MAXIMUM RATINGS Grid Dissipation®* [3]	32 W	MAXIMUM RATINGS Grid Dissipation®* - - - - . 43 30 32 watts
DC PLATE VOLTAGE [1]	5000 V	DC PLATE VOLTAGE - 5000 VOLTS Plate Power Input - - - - . 6670 6615 6250 watts
DC PLATE VOLTAGE [2]	6670 V	DC PLATE VOLTAGE - 5000 VOLTS Plate Power Input - - - - . 6670 6615 6250 watts
DC PLATE VOLTAGE [3]	6615 V	DC PLATE VOLTAGE - 5000 VOLTS Plate Power Input - - - - . 6670 6615 6250 watts
DC PLATE VOLTAGE [4]	6250 V	DC PLATE VOLTAGE - 5000 VOLTS Plate Power Input - - - - . 6670 6615 6250 watts
DC PLATE CURRENT [1]	2 A	DC PLATE CURRENT - 2.0 AMPS Plate Dissipation S S 1670 1315 950 watts
DC PLATE CURRENT [2]	1670 A	DC PLATE CURRENT - 2.0 AMPS Plate Dissipation S S 1670 1315 950 watts
DC PLATE CURRENT [3]	1315 A	DC PLATE CURRENT - 2.0 AMPS Plate Dissipation S S 1670 1315 950 watts
DC PLATE CURRENT [4]	950 A	DC PLATE CURRENT - 2.0 AMPS Plate Dissipation S S 1670 1315 950 watts
PLATE DISSIPATION [1]	1670 W	PLATE DISSIPATION - 1670 VOLIS Plate Power Output - - - - 5000 5300 5300 watts
PLATE DISSIPATION [2]	5000 W	PLATE DISSIPATION - 1670 VOLIS Plate Power Output - - - - 5000 5300 5300 watts
PLATE DISSIPATION [3]	5300 W	PLATE DISSIPATION - 1670 VOLIS Plate Power Output - - - - 5000 5300 5300 watts

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
PLATE DISSIPATION [4]	5300 W	PLATE DISSIPATION - 1670 VOLIS Plate Power Output - - - - 5000 5300 5300 watts
AMPLIFIER OR MODULATOR DC Plate Voltage [1]	4000 V	AMPLIFIER OR MODULATOR DC Plate Voltage - - - - . 4000 5000 6000 volts
AMPLIFIER OR MODULATOR DC Plate Voltage [2]	5000 V	AMPLIFIER OR MODULATOR DC Plate Voltage - - - - . 4000 5000 6000 volts
AMPLIFIER OR MODULATOR DC Plate Voltage [3]	6000 V	AMPLIFIER OR MODULATOR DC Plate Voltage - - - - . 4000 5000 6000 volts
Class-AB or B U DC Grid Voltage! [1]	-150 V	Class-AB or B U DC Grid Voltage! - - - - - —150 —190 —240 volts
Class-AB or B U DC Grid Voltage! [2]	-190 V	Class-AB or B U DC Grid Voltage! - - - - - —150 —190 —240 volts
Class-AB or B U DC Grid Voltage! [3]	-240 V	Class-AB or B U DC Grid Voltage! - - - - - —150 —190 —240 volts
Zero-Signal DC Plate Current [1]	600 mA	Zero-Signal DC Plate Current - - - 0.6 0.5 0.4 amps



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

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	53 A	—
Amplification factor	20	—
Transconductance	20000 uS	—

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Input/grid-cathode capacitance	35 pF	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Output/plate-cathode capacitance	0.9 pF	—
Feedback/grid-plate capacitance	20 pF	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum plate voltage	6000 V	—
Maximum plate dissipation	2500 W	—
Maximum grid dissipation	150 W	—
Maximum plate/cathode current	2.5 A	—
Frequency for maximum ratings	75 MHz	—
Typical RF plate voltage	6000 V	ClassC
Typical RF output power	10000 W	ClassC
Typical AF two-tube output	13000 W	ClassB;TwoTubes