



ELECTRONIC TUBE REFERENCE

3CX2500H3

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

CONSOLIDATED TECHNICAL DATA
1 SECTION
CONSTRUCTION
TRIODE

Forced-air-cooled ceramic/metal power triode for industrial RF heating, RF amplification, and modulator service. Rated for 2.5 kW plate dissipation and about 10 kW typical industrial-RF output at 6 kV.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	—
NOMINAL HEATER	7.5 V / 52 A	PARALLEL HEATER	— / —
HEATING	Direct	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION1 Triode	
TRANSCONDUCTANCE	0.02 S
AMPLIFICATION FACTOR	20
MAXIMUM PLATE VOLTAGE	6000 V
MAXIMUM PLATE DISSIPATION	2500 W
MAXIMUM GRID DISSIPATION	400 W
MAXIMUM CATHODE CURRENT	2.5 A
Maximum ratings promoted from the printed service-rating tables; typical operating values are preserved as parameters.	

Forced-air-cooled ceramic/metal industrial RF-heating power triode.



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
Maximum plate voltage	6000 V	—
Maximum plate/cathode current	2.5 A	—
Maximum plate dissipation	2500 W	—
Maximum grid dissipation	400 W	—



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	50 A	—
Amplification factor	20	—
Transconductance	20000 μ S	—

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Input/grid-cathode capacitance	35 pF	—
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	—
Industrial RF plate input maximum	12500 W	IndustrialRF
Typical industrial RF plate voltage	6000 V	IndustrialRF
Typical industrial RF plate output	10000 W	IndustrialRF



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

199X Svetlana

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

199X SVETLANA

Section 1 · Triode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Current @	7.5 V	or modulator service. The ceramic is glazed to
Input	36 pF	or modulator service. The ceramic is glazed to

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Output	0.9 pF	or modulator service. The ceramic is glazed to
Feedback	20 pF	or modulator service. The ceramic is glazed to
Maximum frequency for full ratings (CW)	75 MHz	or modulator service. The ceramic is glazed to

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
DC plate voltage	6000 V	Maximum Ratings
DC plate current	2.5 A	Maximum Ratings
Plate dissipation	4000 W	Maximum Ratings
Grid dissipation	150 W	Maximum Ratings
DC grid voltage	-1000 V	Maximum Ratings
DC grid current	400 mA	Maximum Ratings
(Frequencies to	30 MHz	Typical Operation
DC plate voltage 4000 5000	6000 V	Typical Operation
DC plate current 2.5 2.5	2.08 A	Typical Operation
DC grid voltage* -300 -450	-500 V	Typical Operation
DC grid current* 245 265	180 mA	Typical Operation
Peak RF grid voltage* 580 750	765 V	Typical Operation
Driving Power* 142 197	136 W	Typical Operation
Grid dissipation* 68 78	46 W	Typical Operation
Plate input power 10,000 12,500	12500 W	Typical Operation
Plate dissipation 2500 2500	2500 W	Typical Operation
Plate output power 7500 10,000	10000 W	Typical Operation
DC plate voltage	5500 V	Maximum Ratings
DC plate current	2 A	Maximum Ratings
Plate dissipation	2670 W	Maximum Ratings
Grid dissipation	150 W	Maximum Ratings
DC grid voltage	-1000 V	Maximum Ratings
(Frequencies to	110 MHz	Typical Operation
DC plate voltage 4000 4500	5000 V	Typical Operation

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
DC plate current 1.67 1.47	1.25 A	Typical Operation
DC grid voltage -450 -500	-550 V	Typical Operation
DC grid current* 180 140	150 mA	Typical Operation
Peak RF grid voltage* 685 715	760 V	Typical Operation
Driving power 125 100	115 W	Typical Operation
Grid dissipation* 43 30	32 W	Typical Operation
DC plate input power 6670 6615	6250 W	Typical Operation
Plate dissipation 1670 1315	950 W	Typical Operation
Plate output power 5000 5300	5300 W	Typical Operation
DC plate voltage	6000 V	Maximum Ratings (per tube)
DC plate current	2.5 A	Maximum Ratings (per tube)
Plate dissipation	4000 W	Maximum Ratings (per tube)
Grid dissipation	150 W	Maximum Ratings (per tube)
DC grid voltage	-1000 V	Maximum Ratings (per tube)
DC plate voltage 4000 5000	6000 V	Typical Operation (two tubes sinusoidal waveform)
Zero-signal DC plate current* 0.6 0.5	400 mA	Typical Operation (two tubes sinusoidal waveform)
Maximum-signal DC plate current 4.0 3.2	3 A	Typical Operation (two tubes sinusoidal waveform)
DC grid voltage ** -150 -190	-240 V	Typical Operation (two tubes sinusoidal waveform)
Peak AF grid voltage (per tube)* 340 360	390 V	Typical Operation (two tubes sinusoidal waveform)
Maximum-signal peak driving power* 340 230	225 W	Typical Operation (two tubes sinusoidal waveform)
Maximum-signal nominal driving power* 170 115	113 W	Typical Operation (two tubes sinusoidal waveform)
Load resistance, plate-to-plate 2200 3600	4650 Ohms	Typical Operation (two tubes sinusoidal waveform)
Maximum-signal plate output power 11,000 11,000	13000 W	Typical Operation (two tubes sinusoidal waveform)
Filament current at	7.5 V	Typical Operation (two tubes sinusoidal waveform)

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Input 29.2	40.2 pF	Typical Operation (two tubes sinusoidal waveform)
Output 0.6	1.2 pF	Typical Operation (two tubes sinusoidal waveform)
Feedback 16.8	23.2 pF	Typical Operation (two tubes sinusoidal waveform)
DC grid bias for Eb =3000, Ib =0.83A -67	-100 V	Typical Operation (two tubes sinusoidal waveform)
the ceramic/metal seals below	250 °C	Typical Operation (two tubes sinusoidal waveform)
temperatures below	225 °C	Typical Operation (two tubes sinusoidal waveform)
temperature of	40 °C	Typical Operation (two tubes sinusoidal waveform)