



ELECTRONIC TUBE REFERENCE

3CX100A5

Power - Triode electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

TRIODE

Ceramic-metal industrial power triode designed for high-power RF amplifier, oscillator, or modulator service. Manufacturer data emphasize transmitting duty, substantial plate dissipation, and the cooling provisions required for continuous professional operation.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	—
NOMINAL HEATER	6 V / 1.05 A	PARALLEL HEATER	— / —
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION 1 Triode	
TRANSCONDUCTANCE	0.025 S
AMPLIFICATION FACTOR	100
MAXIMUM PLATE VOLTAGE	3500 V
MAXIMUM PLATE DISSIPATION	100 W
MAXIMUM GRID DISSIPATION	2 W
MAXIMUM CATHODE CURRENT	4.8 A
<i>CW Class-C absolute maxima promoted; pulse-only plate-supply rating preserved separately as a parameter.</i>	

Rugged ceramic/metal planar triode for CW/pulsed oscillator, amplifier, frequency multiplier, pulse modulator or regulator service to 3 GHz.



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

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Current	900 mA–1.05 A	—

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-Cathode Capacitance	5.6–7 pF	—
Grid-Plate Capacitance	1.95–2.15 pF	—
Plate-Cathode Capacitance Maximum	0.035 pF	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Frequency for Maximum Ratings	2.5 GHz	—
Pulse Plate Voltage Maximum	3500 V	PlatePulsed
Pulse Plate Current Maximum	3 A	PlatePulsed
Pulse Cathode Current Maximum	4.8 A	PulseModulator
Typical CW Useful Output	40 W	Frequency=500MHz



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	6 V	—
Heater/filament current	1.05 A	—
Amplification factor	100	—
Transconductance	25000 μ S	—

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Input/grid-cathode capacitance	5.6 pF	—
Output/plate-cathode capacitance	7 pF	—
Feedback/grid-plate capacitance	0.35 pF	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum plate voltage	3500 V	—
Maximum plate dissipation	100 W	—
Maximum grid dissipation	2 W	—
Maximum plate/cathode current	4.8 A	—
Frequency for maximum ratings	2500 MHz	—
CW plate voltage	1000 V	CW
Pulse peak plate voltage	3500 V	Pulse
Pulse cathode current	4.8 A	Pulse
Useful output at 500 MHz	27 W	500MHz
Useful output at 2900 MHz	9.5 W	2900MHz



SOURCE DATA APPENDIX

1968 General Electric Co

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

1968 GENERAL ELECTRIC CO
Section 1 · Triode

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-to-plate capacitance	2 pF	—
Grid-to-cathode capacitance	6.3 pF	—
Plate-to-cathode capacitance maximum	0.035 pF	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Cathode heating time minimum	60— s	—
Maximum frequency, CW	2500 MHz	ClassC CW
Peak negative RF grid voltage	400 V	ClassC CW
DC grid current maximum	50 mA	ClassC CW
Plate-pulse supply voltage maximum	3500 V	PlatePulsed
Pulse duration maximum	3 us	PlatePulsed
Duty factor maximum	0.0025	PlatePulsed
Plate current during pulse	3 A	PlatePulsed
Typical plate voltage	600 V	AverageCharacteristics
RF power amplifier plate voltage	900 V	500MHz
RF power amplifier plate current	90 mA	500MHz
Useful power output	17 W	1000V operating example

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Typical plate current	70 mA	AverageCharacteristics



SOURCE OPERATING CONDITIONS

1971 Machlette Laboratories

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

1971 MACHLETTE LABORATORIES

Section 1 · Triode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Frequency for Maximum Ratings	3000 MHz	—



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1975 Eimac Tube Manual

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

1975 EIMAC TUBE MANUAL

Section 1 · Triode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Current Range	900 mA–1.05 A	—
Cathode Heating Time	60 s	—

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Input Capacitance	6.3 pF	—
Output Capacitance	0.035 pF	—
Grid-Plate Capacitance	1.98 pF	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Frequency Maximum	3 GHz	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Pulse Plate Voltage Maximum	3500 V	PlatePulsed
Pulse Current Maximum	4.8 A	PulseModulator
Pulse Duration Maximum	6 us	—
Duty Factor Maximum	0.0033	—
Grid-Pulsed Plate Voltage Maximum	1000 V	—
Plate-Pulsed Peak Plate Voltage Maximum	3500 V	—
Pulse Plate Current Maximum	3 A	—
Pulse Grid Current Maximum	1.8 A	—



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1976 Eimac Tube Manual

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

1976 EIMAC TUBE MANUAL

Section 1 · Triode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Current Range	900 mA–1.05 A	—
Cathode Heating Time	60 s	—

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Input Capacitance	6.3 pF	—
Output Capacitance	0.035 pF	—
Grid-Plate Capacitance	1.98 pF	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Frequency Maximum	3 GHz	—
Pulse Plate Voltage Maximum	3500 V	PlatePulsed

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Pulse Current Maximum	4.8 A	PulseModulator
Pulse Duration Maximum	6 us	—
Duty Factor Maximum	0.0033	—
Grid-Pulsed Plate Voltage Maximum	1000 V	—
Plate-Pulsed Peak Plate Voltage Maximum	3500 V	—
Pulse Plate Current Maximum	3 A	—
Pulse Grid Current Maximum	1.8 A	—

TUBE TINKER

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and their source documents.

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