



ELECTRONIC TUBE REFERENCE

8906

Power - Triode Single (under 10W) electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

TRIODE

Rugged planar triode for CW or pulsed oscillator, multiplier, modulator, amplifier, and regulator service at frequencies to approximately 3 GHz.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	—
NOMINAL HEATER	6 V / 1 A	PARALLEL HEATER	— / —
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION 1 Triode	
TRANSCONDUCTANCE	0.038 S
AMPLIFICATION FACTOR	80
MAXIMUM PLATE VOLTAGE	4500 V
MAXIMUM PLATE DISSIPATION	10 W
MAXIMUM GRID DISSIPATION	1.5 W
MAXIMUM CATHODE CURRENT	7.5 A
<i>Promoted values are taken from printed General Characteristics / Maximum Ratings. Additional published conditions and operating data are preserved in parameters.</i>	

The EIMAC 8906 is a rugged planar triode for cw or pulsed oscillator, multiplier, modulator, and regulator service to 3 ghz.



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

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-Cathode Capacitance	8 pF	—
Grid-Plate Capacitance	1.98 pF	—
Plate-Cathode Capacitance	0.06 pF	—

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Cutoff Bias Maximum	-30 V	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Frequency CW Maximum	2.5 GHz	—
Peak Pulse Plate Voltage	4500 V	—
Pulse Plate Current	5 A	—
Typical CW Output Power	45 W	Frequency=700MHz



SOURCE OPERATING CONDITIONS

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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

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
service at frequencies up to	3 mA	service at frequencies up to 3 GHz. They may also be used spew shields to minimize changes in grid-plate capacitance
The ML	8907	The ML-8907 is fitted with a radiator for forced-air cooling. current capability, Jow interelectrode capacitance, high trans-
Transconductance (Ib= [1]	100 mA	Transconductance (Ib=100 mA, Eb=600 V)
Transconductance (Ib= [2]	600 mA	Transconductance (Ib=100 mA, Eb=600 V)
Maximum Envelope or Anode Temperature	250 mA	Maximum Envelope or Anode Temperature 250 °C
CW RF Power Oscillator or Amplifier – Class C Driving Power during Pulse	400	CW RF Power Oscillator or Amplifier — Class C Driving Power during Pulse ... 400
Useful Peak Power Qutput, approximate	2.5 mA	Useful Peak Power Qutput, approximate 2.5
Maximum Ratings, Absolute Values Typical Operation, Grid-Pulsed RE Oscillator, ML	8906 mA	Maximum Ratings, Absolute Values Typical Operation, Grid-Pulsed RE Oscillator, ML-8906/AL
DC Plate Voltage [1]	2500	DC Plate Voltage 2500 FreQuency ccooooiiiiiii e, 1.1
DC Plate Voltage [2]	1.1	DC Plate Voltage 2500 FreQuency ccooooiiiiiii e, 1.1
DC Grid Voltage --- [1]	150	DC Grid Voltage ---~150 Heater Voltage ... 5.7
DC Grid Voltage --- [2]	5.7	DC Grid Voltage ---~150 Heater Voltage ... 5.7
Grid negative to cathode Duty Factor ...t	0.001	Grid negative to cathode Duty Factor ...t 0.001
DC Plate Voltage ooooiiiiiiiiniieie	2000	DC Plate Voltage ooooiiiiiiiiniieie 2000
Grid positive to cathode ... DC Grid Voltage cocoeeviviiiiiniieiee e	-75	Grid positive to cathode ... DC Grid Voltage cocoeeviviiiiiniieiee e —75

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
DC Plate Current Peak Video Plate Current cc.000eivviiiieeiinn,	1.1	DC Plate Current Peak Video Plate Current cc.000eivviiiieeiinn, 1.1
Plate Dissipation Peak Video Grid Current	8	Plate Dissipation Peak Video Grid Current 8
Forced-air cooling (ML [1])	8907 mA	Forced-air cooling (ML-8907) ... 100 Useful Peak Power Output, approximate 850
Forced-air cooling (ML [2])	100 mA	Forced-air cooling (ML-8907) ... 100 Useful Peak Power Output, approximate 850
Forced-air cooling (ML [3])	850 mA	Forced-air cooling (ML-8907) ... 100 Useful Peak Power Output, approximate 850
Conduction and convection (ML [1])	8906	Conduction and convection (ML-8906, Typical Operation, Plate-Pulsed RF Amplifier, ML-8906/AL
Conduction and convection (ML [2])	8906	Conduction and convection (ML-8906, Typical Operation, Plate-Pulsed RF Amplifier, ML-8906/AL
Grid Dissipation [1]	1.5	Grid Dissipation ... 1.5 Heater Voltage 5.7
Grid Dissipation [2]	5.7	Grid Dissipation ... 1.5 Heater Voltage 5.7
Frequency ..o [1]	2.5 GHz	Frequency ..o 2.5 GHz Pulse DURATION ccccoooeivieiiiiiiiiaeieeice 3.5
Frequency ..o [2]	3.5 GHz	Frequency ..o 2.5 GHz Pulse DURATION ccccoooeivieiiiiiiiiaeieeice 3.5
Typical Operation, Cathode Drive Amplifier Duty Factor	0.001	Typical Operation, Cathode Drive Amplifier Duty Factor ... 0.001
e [1]	7 GHz	e 7 GHz Peak Plate Pulse Supply Voltage 2000
e [2]	2000 GHz	e 7 GHz Peak Plate Pulse Supply Voltage 2000
DC Plate Voltage	630	DC Plate Voltage 630 DC Grid Voltage cc.0c0oovovioveiiiieecee
DC Grid Voltage, approximate [1]	-5 mA	DC Grid Voltage, approximate —5 Peak Video Plate Current ... 2
DC Grid Voltage, approximate [2]	2 mA	DC Grid Voltage, approximate —5 Peak Video Plate Current ... 2

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
DC Cathode Current [1]	140	DC Cathode Current 140 Peak Video Grid Current ... 1
DC Cathode Current [2]	1	DC Cathode Current 140 Peak Video Grid Current ... 1
DC Grid Current [1]	25	DC Grid Current 25 Driving Power coooooiiiiiii 300
DC Grid Current [2]	300	DC Grid Current 25 Driving Power coooooiiiiiii 300
Driving Power, approximate [1]	4 mA	Driving Power, approximate 4 Useful Peak Power Output, approximate 2
Driving Power, approximate [2]	2 mA	Driving Power, approximate 4 Useful Peak Power Output, approximate 2
Useful Power Output cocoiii [1]	45	Useful Power Output cocoiii 45 Typical Operation, Plate-Pulsed RF Oscillator, ML-8906, ML-8907
Useful Power Output cocoiii [2]	8906	Useful Power Output cocoiii 45 Typical Operation, Plate-Pulsed RF Oscillator, ML-8906, ML-8907
Useful Power Output cocoiii [3]	8907	Useful Power Output cocoiii 45 Typical Operation, Plate-Pulsed RF Oscillator, ML-8906, ML-8907
Frequency	2.5	Frequency ... 2.5 Heater Voltage ..
Heater Voltage	5	Heater Voltage ... 5.0 Pulse Duration ...
DC Plate Voltage	1000	DC Plate Voltage ... 1000 Duty Factor
DC Grid Voltage, approximate U TORTS --	20 mA	DC Grid Voltage, approximate U TORTS --20 Peak Plate Pulse Supply Voltage
DC Plate Current	140	DC Plate Current ... 140 Peak Video Plate Current
DC Grid Current, approximate	30 mA	DC Grid Current, approximate ... 30 Peak Video Grid Current oocvvnveiienee
Useful Power Output coooiiiiei	30 mA	Useful Power Output coooiiiiei 30 Useful Peak Power Output, approximate

SOURCE OPERATING CONDITIONS

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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 voltage nominal	6 V	—
Heater current nominal	1 A	—
Transconductance	38000 μ S	—
Amplification factor	80	—

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Input/grid-cathode capacitance	8 pF	—
Output/plate-cathode capacitance	1.98 pF	—
Grid-plate/feedback capacitance	0.06 pF	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum plate voltage	4500 V	—
Maximum plate dissipation	10 W	—
Maximum grid dissipation	1.5 W	—
Maximum cathode or pulse plate current	7.5 A	—
Maximum rated frequency	3 GHz	—
CW DC plate voltage	2500 V	CW
CW DC plate current	150 mA	CW
CW DC grid current	45 mA	CW

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Conduction/convection plate dissipation	10 W	8906
Representative DC plate voltage	630 V	GroundedGridCWAmplifier
Representative useful CW output	45 W	GroundedGridCWAmplifier
Representative frequency	700 MHz	GroundedGridCWAmplifier
Pulse peak plate voltage	4500 V	Pulse
Pulse grid current	2.5 A	Pulse
Pulse duration	6 us	Pulse



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Maximum grid dissipation	1.5 W	—
Maximum cathode or pulse plate current	7.5 A	—
Maximum rated frequency	3 GHz	—
CW DC plate voltage	2500 V	CW
CW DC plate current	150 mA	CW
CW DC grid current	45 mA	CW
Conduction/convection plate dissipation	10 W	8906
Representative DC plate voltage	630 V	GroundedGridCWAmplifier
Representative useful CW output	45 W	GroundedGridCWAmplifier
Representative frequency	700 MHz	GroundedGridCWAmplifier
Pulse peak plate voltage	4500 V	Pulse
Pulse grid current	2.5 A	Pulse
Pulse duration	6 us	Pulse

TUBE TINKER

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