ELECTRONIC TUBE REFERENCE

EM1080

Specialized - Magnetron electronic tube

CONSOLIDATED TECHNICAL DATA
1 SECTION
CONSTRUCTION
MAGNETRON

Voltage-tunable magnetron oscillator covering approximately 1.2–2.2 GHz. It provides roughly 140–300 mW typical RF output, with operating frequency controlled by anode voltage and an injection-anode electrode provided for its tuning and operating system.

General characteristics

BASE DESIGNATION	—	**BASE PINS**	—
NOMINAL HEATER	6.3 V / 800 mA	**PARALLEL HEATER**	— / —
HEATING	Indirect	**SERIES OPERATION**	Not specified
CATHODE ARRANGEMENT	Separate cathodes	**SECTION CONSTRUCTION**	Similar

Section ratings

SECTION1 Magnetron

MAXIMUM PLATE VOLTAGE	1500 V

Promoted fields populated only where the published value maps directly to the schema; device-specific values retained as parameters.

Frequency Range ..... e ees 1,2-2,2KkMc Cathode Current ..... 2-15 mA Typical Qutput Power ..... 140-300 mW Anode FM Sensitivity . « « o o v v o v . 1.68 Mc/V Injection Anode Voltage . ..... 200V Injection Anode Current .... 0.1 mA Heater Voltage (AC) ..... 6.3V OSCILLATOR

SOURCE OPERATING CONDITIONS

1962 Eimac

SOURCE PDF

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

1962 EIMAC

Section 1 · Magnetron

OTHER		
PARAMETER	**PUBLISHED VALUE**	**CONDITION / NOTE**
Frequency Range ..... e ees [1]	**12**	Frequency Range ..... e ees 1,2-2,2KkMc
Frequency Range ..... e ees [2]	**-22**	Frequency Range ..... e ees 1,2-2,2KkMc
Anode Voltage . ...vcv [1]	**800**	Anode Voltage . ...vcv..... 800-1400V
Anode Voltage . ...vcv [2]	**-1400**	Anode Voltage . ...vcv..... 800-1400V
Cathode Current [1]	**2 mA**	Cathode Current ..... 2-15 mA
Cathode Current [2]	**-15 mA**	Cathode Current ..... 2-15 mA
Typical Qutput Power [1]	**140 mW**	Typical Qutput Power ..... 140-300 mW
Typical Qutput Power [2]	**-300 mW**	Typical Qutput Power ..... 140-300 mW
Anode FM Sensitivity . « « o o v v o v	**1.68 MHz**	Anode FM Sensitivity . « « o o v v o v . 1.68 Mc/V
Injection Anode Voltage	**200**	Injection Anode Voltage 200V
Injection Anode Current	**0.1 mA**	Injection Anode Current .... 0.1 mA
Heater Voltage (AC)	**6.3**	Heater Voltage (AC) ..... 6.3V OSCILLATOR
Heater Current (AC) ..... .o	**0.8**	Heater Current (AC) ..... .o 0.8 A
Load Impedance .....¢ [1]	**0 ohm**	Load Impedance .....¢00.:.. 50 ohms
Load Impedance .....¢ [2]	**50 ohm**	Load Impedance .....¢00.:.. 50 ohms
Anode Voltage . .« v v v v v e o e v v s [1]	**1500**	Anode Voltage . .« v v v v v e o e v v s 1500V 500 . e eran y .
Anode Voltage . .« v v v v v e o e v v s [2]	**500**	Anode Voltage . .« v v v v v e o e v v s 1500V 500 . e eran y .

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Cathode Current [1]	**0 mA**	Cathode Current .....0cc0ee.. 25 mA INJECTION ANODE VOLTSz140V
Cathode Current [2]	**25 mA**	Cathode Current .....0cc0ee.. 25 mA INJECTION ANODE VOLTSz140V
Cathode Current [3]	**40 mA**	Cathode Current .....0cc0ee.. 25 mA INJECTION ANODE VOLTSz140V
Injection Anode Voltage	**4700**	Injection Anode Voltage . .. . 4700 V
Injection Anode Current [1]	**1 mA**	Injection Anode Current ..... 1 mA POWER %00 e
Injection Anode Current [2]	**0 mA**	Injection Anode Current ..... 1 mA POWER %00 e
are exceeded [1]	**10**	are exceeded. 10T oAD vSWR 1ia:1
are exceeded [2]	**1**	are exceeded. 10T oAD vSWR 1ia:1
are exceeded [3]	**1**	are exceeded. 10T oAD vSWR 1ia:1
Height . . ... v e v [1]	**3 mA**	Height . . ... v e v . 3 inches -1t CURRENT mA | |
Height . . ... v e v [2]	**-1 mA**	Height . . ... v e v . 3 inches -1t CURRENT mA | |
Published value	**1**	1. COOLING: To insure optimum tube performance the magnet temperature should be maintained below
Published value [1]	**3**	3. TEMPERATURE STABILITY: The permanent magnet for the X-1080 has been temperature stabilized
Published value [2]	**1080**	3. TEMPERATURE STABILITY: The permanent magnet for the X-1080 has been temperature stabilized
frequency coefficient for the X [1]	**1080**	frequency coefficient for the X-1080 package is typically .02% of the operating frequency per degree
frequency coefficient for the X [2]	**2**	frequency coefficient for the X-1080 package is typically .02% of the operating frequency per degree
Centigrade. Thus, for an operating frequency of	**1500 MHz**	Centigrade. Thus, for an operating frequency of 1500 megacycles, the temperature/frequency coeffi-
cient is typically	**300**	cient is typically 300 kilocycles per degree Centigrade. A positive change in temperature will always
Published value	**4**	4, ANODE VOLTAGE: The operating frequency is a function of the anode voltage; therefore, any voltage

Tube Tinker

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