



ELECTRONIC TUBE REFERENCE

EM747

Specialized - Magnetron electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION
CONSTRUCTION
MAGNETRON

Voltage-tunable L-band magnetron oscillator covering approximately 0.4-1.2 GHz. Typical RF output is about 75-250 mW, with frequency controlled by anode voltage and an injection-anode electrode incorporated into the oscillator 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

SECTION 1 Magnetron	
MAXIMUM PLATE VOLTAGE	2000 V
<i>Promoted fields populated only where the published value maps directly to the schema; device-specific values retained as parameters.</i>	

[] : Magnetron Frequency Range - - - - - 0.4-1.2 kMc Anode Voltage - - - - - = 660-1980V Cathode Current - - - - - 2-8 mA Typical Output Power - - - - - 75-250 mW L-BAND Anode FM Sensitivity - - - - - .65 Mc/V Injection Anode Voltage - - - - 200V OSCILLATOR

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 · Magnetron

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Power	50 mW	Power 50 mW Min.
Frequency Range [1]	0.4	Frequency Range - - - - - 0.4-1.2 kMc
Frequency Range [2]	-1.2	Frequency Range - - - - - 0.4-1.2 kMc
Anode Voltage - - - - - = [1]	660	Anode Voltage - - - - - = 660-1980V
Anode Voltage - - - - - = [2]	-1980	Anode Voltage - - - - - = 660-1980V
Cathode Current [1]	2 mA	Cathode Current - - - - - 2-8 mA
Cathode Current [2]	-8 mA	Cathode Current - - - - - 2-8 mA
Typical Output Power [1]	75 mW	Typical Output Power - - - - - 75-250 mW L-BAND
Typical Output Power [2]	-250 mW	Typical Output Power - - - - - 75-250 mW L-BAND
Anode FM Sensitivity	65 MHz	Anode FM Sensitivity - - - - - .65 Mc/V
Injection Anode Voltage	200	Injection Anode Voltage - - - - 200V OSCILLATOR
Injection Anode Current	0 mA	Injection Anode Current - - - - 0 mA
Heater Voltage (AC or DC)	63	Heater Voltage (AC or DC) - - - 6,3V
Heater Current (ACor DC)	0.8	Heater Current (ACor DC) - - - 0.8 A
Load Impedance	50 ohm	Load Impedance - - - - - 50 ohms
INJECTION ANODE VOLTAGE =	140	INJECTION ANODE VOLTAGE =140 ¥
Anode Voltage - ~ [1]	2000	Anode Voltage - ~ - - - - - 2000V 200
Anode Voltage - ~ [2]	200	Anode Voltage - ~ - - - - - 2000V 200
Cathode Current	20	Cathode Current - - - - - 20mA] u &
Injection Anode Voltage [1]	500	Injection Anode Voltage - - - - - 500V 100

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Injection Anode Voltage [2]	100	Injection Anode Voltage - - - - - 500V 100
Injection Anode Current	1 mA	Injection Anode Current - - - - - 1 mA
Length - - - - - == - =	4.5 MHz	Length - - - - - == - = 4.5 inches FREQUENCY Mc
Published value	1	1. COOLING: To insure optimum tube performance the magnet temperature should be maintained
Published value [1]	3	3. TEMPERATURE STABILITY: The permanent magnet for the EM-747 has been temperature
Published value [2]	747	3. TEMPERATURE STABILITY: The permanent magnet for the EM-747 has been temperature
The temperature/frequency coefficient for the EM [1]	747	The temperature/frequency coefficient for the EM-747 package is typically .02% of the operating
The temperature/frequency coefficient for the EM [2]	2	The temperature/frequency coefficient for the EM-747 package is typically .02% of the operating
frequency per degree Centigrade. Thus, for an operating frequency of	1000 MHz	frequency per degree Centigrade. Thus, for an operating frequency of 1000 megacycles, the
temperature/frequency coefficient is typically	200	temperature/frequency coefficient is typically 200 kilocycles per degree Centigrade. A positive
temperature compensation of	8	temperature compensation of .008% of the operating frequency per degree Centigrade can be
Published value	4	4. ANODE VOLTAGE: The operating frequency is a function of the anode voltage; therefore any
VOLTAGE DECAL [1]	3.64	VOLTAGE DECAL 3.640 [3.67
VOLTAGE DECAL [2]	3.67	VOLTAGE DECAL 3.640 [3.67

TUBE TINKER

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