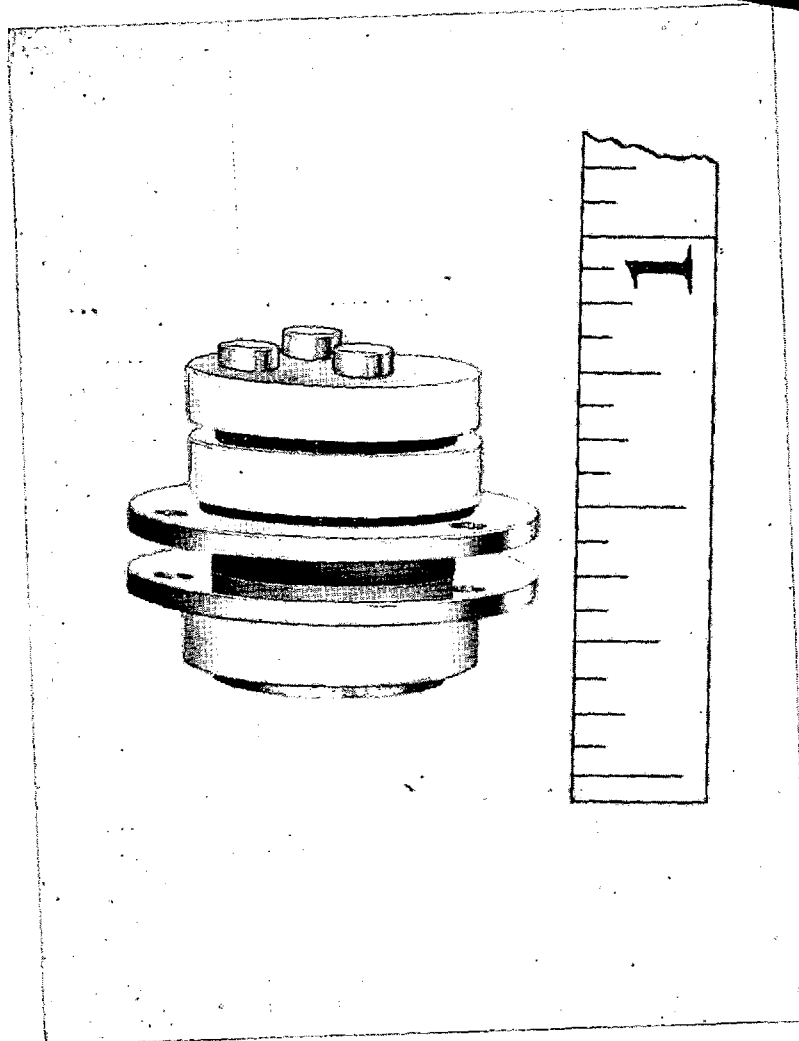




VOLTAGE-TUNABLE MAGNETRON

METAL AND CERAMIC
POWER OUTPUT—10 WATTS

2000-4000 MEGACYCLES
VOLTAGE-TUNED OVER FREQUENCY RANGE

The GL-6917 is a CW interdigital voltage-tunable magnetron for operation in the 2000-to-4000-megacycle range. In a narrow-band circuit, this tube has a power output up to 10 watts. In a circuit covering 2000 to 4000 megacycles, it has a power output up to 1.0 watt.

A novel ceramic-to-metal seal construction results in a tube extremely small in size— $\frac{5}{8}$ inch long and $\frac{3}{4}$ inch in diameter—and one which is

particularly suitable for operation at microwave frequencies.

The GL-6917, in an external r-f circuit, may be voltage-tuned over a portion or all of the frequency range for which it is designed. The frequency of the generated signal is a linear function of the anode voltage. The r-f power output at any frequency is a function of the impedance of the external r-f circuit.

from JETEC release #1989, Aug. 5, 1957

GENERAL  ELECTRIC

GL-1

GENERAL AND RATING

Electrical

	Minimum	Bogey	Maximum	
Cathode—Directly Heated				
Filament Voltage*				
Filament Current*	2.0	2.25	2.5	Volts
Direct Interelectrode Capacitances		3.0	...	Amperes
Anode to Anode				
Both Anodes to Filament			4.9	$\mu\mu\text{f}$
Both Anodes to Injection Electrode			1.3	$\mu\mu\text{f}$
Both Anodes to Cold Cathode			2.9	$\mu\mu\text{f}$
			3.3	$\mu\mu\text{f}$

Mechanical

Mounting Position—Any

Thermal

Type of Cooling—Forced Air

Envelope Temperature, maximum.....150 C

MAXIMUM RATINGS AND TYPICAL OPERATING CONDITIONS

Maximum Ratings, Absolute Values

Anode Voltage	2500	Volts
Anode Current	.40	Milliamperes
Power Input, with forced-air cooling	.60	Watts
Injection Electrode Voltage	.500	Volts
Control Electrode Current	1.0	Milliamperes
Filament Current	3.2	Amperes
Voltage Standing Wave Ratio	1.5	

Typical Operating Conditions

Operation with 60-Cycle Sweep Voltage in a Wide-Band Circuit

Tunable Range†	2000 to 4000	Megacycles
Magnetic Field Strength	2500 $\pm$ 50	Gausses
Tuning Rate, approximate	3.0	Megacycles per Volt
Filament Voltage, approximate*	2.25	Volts
Filament Current*	3.0	Amperes
Anode Voltage at 3 Kilomegacycles, 2500 gaussess	1150	Volts
Anode Current, average	10 to 20	Milliamperes
Injection Electrode Voltage, positive with respect to cathode	300 to 500	Volts
Control-Electrode Current	0.1	Milliamperes
Voltage Standing Wave Ratio	1.3	
Power Output, average	0.5 to 1.0	Watts

* Filament current should be adjusted to 3.0 amperes.

† Frequency controlled by anode voltage.

