MECHANICAL DATA

Envelope	Metal Capsule	
Power Connector	Winchester PM6P[1]	
RF Connector	Type N Jack[1]	
Focusing	Electromagnetic	
Cooling[2]	Forced Air	
Mounting Position	Any	
Tube Weight (Approx.)	1.5	lbs
Solenoid Weight (Approx.):		
Military (Aluminum foil-wound)	18.5	lbs
Non-Military (Copper wire-wound)	45	lbs

QUICK REFERENCE DATA

Backward-wave Oscillator
Full Octave Coverage
1.0 to 2.0 Gc
Over 10 mW Power Output
Voltage Tunable
Suitable for Airborne Applications

ELECTRICAL DATA[3]

HEATER CHARACTERISTICS

Voltage	6.3 ± 10%	V
Current (at 6.3 V)	2.2 - 3.9	A
Minimum Preheat Time	3	Minutes

RATINGS (Absolute Maximum)

Collector Voltage with Respect to Helix	300	Vdc
Grid 1 Voltage	±125	Vdc
Grid 2 Voltage	135	Vdc
Helix, Grid 3 Voltage	875	Vdc
Anode Current	5.5	mAdc
Cathode Current	45	mAdc
Collector Seal Temperature	200	°C

TYPICAL OPERATION[4]

Conditions

Magnetic Focusing Field Density	600	Gausses
Minimum Uniform Length	7	Inches
Grid 1 Voltage	0	Vdc
Voltage to Gate-Off Oscillation	-100	Vdc
Collector Voltage with Respect to Helix	150	Vdc
Grid 2 Voltage (Approx.)[5]	60	Vdc
Helix, Grid 3 Voltage (Approx.)[8]	90 - 660	Vdc

Characteristics	Min.	Max.	
Frequency[8]	1	2	Gc
Grid 2 Current	-	5	mAdc
Helix, Grid 3 Current	-	20	mAdc
Cathode Current	-	42	mAdc
Collector Current	-	35	mAdc
RF Power Output[8]	10	1400	mW

CIRCUIT DESIGN INFORMATION[7]

Grid 2 Voltage Range	0 to 125	Vdc
Helix, Grid 3 Voltage Range	45 to 800	Vdc

POWER CONNECTIONS

A. Grid 1
B. Grid 2
C. Collector
D. Heater, Cathode
E. Heater
F. Grid 3, Helix,[6] Capsule, Outer Conductor of RF Cable

SYLVANIA ELECTRIC PRODUCTS INC.

MICROWAVE DEVICE OPERATIONS

Mountain View, California

January 31, 1961

from JEDEC release #3221, April 10, 1961

NOTES:

1. Alternative connectors supplied on request.

2. In addition to the cooling requirements for the solenoid used with this tube it is recommended that at least 0.15 lbs/min of less than 100°F cooling air be directed into the collector end of the tube.

3. All voltages given are with respect to cathode except where otherwise specified. For safety, pin F should be operated at ground potential (see Note 6).

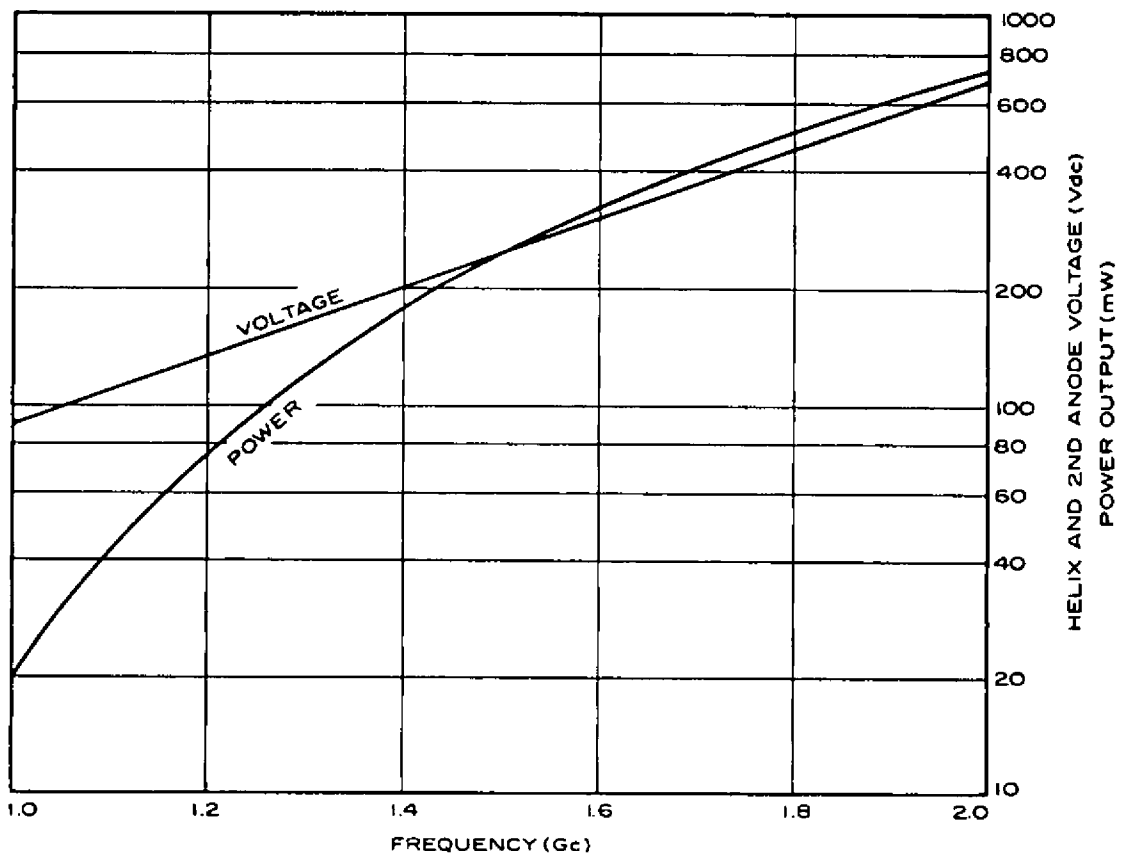
4. The quoted tube performance is for operation in a Sylvania-approved solenoid. Additional information will be supplied on request.

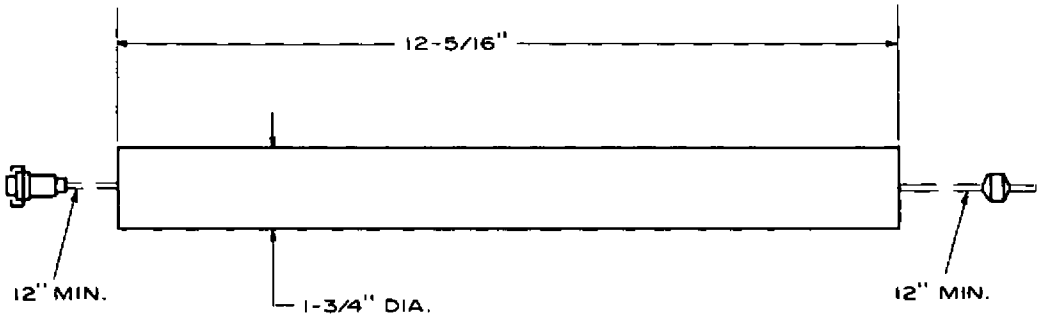
5. In typical operation the grid 2 voltage, with respect to cathode, remains fixed as a function of frequency. The appropriate value for an individual tube may be found by adjusting the grid 2 voltage to provide a specified value of cathode current when the tube is oscillating at 1 Gc. The specified value for cathode current, at 1 Gc, is supplied with each tube.

6. The inner conductor of the RF cable connects to the helix and hence has d-c continuity to pin F.

7. Ranges include values required as a result of initial spread in tube characteristics as well as those to accommodate changes throughout life.

8. Typical curves.




12-5/16"
12" MIN.
1-3/4" DIA.
12" MIN.