MECHANICAL DATA

Envelope Metal Capsule
Power Connector Winchester PM6P-1
RF Connector Type N Jack
Focusing Electromagnetic
Cooling 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

ELECTRICAL DATA

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

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.) 60 Vdc
Helix, Grid 3 Voltage (Approx.) 90 - 660 Vdc

Characteristics

Frequency 1 Gc
Grid 2 Current 5 mAdc
Helix, Grid 3 Current 20 mAdc
Cathode Current 42 mAdc
Collector Current 35 mAdc
RF Power Output 1400 mW

CIRCUIT DESIGN INFORMATION

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

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

POWER CONNECTIONS

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

SYLVANIA ELECTRIC PRODUCTS INC.

MICROWAVE DEVICE OPERATIONS
Mountain View, California

January 31, 1961

Page 1 of 3

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.