



MECHANICAL DATA

Envelope	Metal Capsule		
Power Connector	Winchester PM6P ¹		
RF Connectors	Type N Jack ¹		
Focusing	Electromagnetic Solenoid Required		
Cooling ²	Forced Air		
Mounting Position	Any		
Tube Weight (Approx.)	1	lb	
Solenoid Weight (Approx.):			
Military (Aluminum foil-wound)	8	lbs	
Non-Military (Copper wire-wound)	18	lbs	

QUICK REFERENCE DATA

Traveling-wave Amplifier
 Full Octave Coverage
 1.0 to 2.0 Gc
 Over 15 mW Power Output
 Over 35 db Small Signal
 Gain
 CW or Pulsed
 Suitable for Airborne
 Applications

ELECTRICAL DATA ³

HEATER CHARACTERISTICS

Voltage	6.3 ± 10%	V
Current (at 6.3 V)	0.64 - 0.96	A
Minimum Preheat Time	1	Minute

RATINGS (Absolute Maximum)

Collector Voltage with Respect to Helix	250	Vdc
Helix Voltage	400	Vdc
Grid 1 Voltage	0 to -175	Vdc
Grid 2 Voltage	400	Vdc
Cathode Current	10	mAdc
CW RF Input	1	W

TYPICAL OPERATION ⁴

Conditions

Frequency	1.0 to 2.0	Gc
Magnetic Focusing Field Density	285	Gausses
Minimum Uniform Length	11	Inches
Collector Voltage with Respect to Helix	150	Vdc
Helix Voltage (Approx.) ⁵	250	Vdc
Grid 1 Voltage	0	Vdc
Voltage to Gate-Off (55 db Insertion Loss)	-120	Vdc
Grid 2 Voltage (Approx.) ⁵	200	Vdc

POWER CONNECTIONS

- A. Grid 1
- B. Grid 2
- C. Helix
- D. Heater, Cathode
- E. Heater
- F. Capsule
- Collector - Red Wire

Characteristics

	Min.	Max.	
Cathode Current	-	9	mAdc
Grid 1 Current	-	0.3	mAdc
Grid 2 Current	-	0.2	mAdc
Small Signal Gain (-40 dbm Input)	35	45	db
Small Signal Gain Variation	-	±3	db
Fine-Grain Variation of Gain for any 100-Mc Segment	-	±2	db
Noise Power Output ⁶	-	0.15	mW
Saturation Power Output	15	-	mW

SYLVANIA ELECTRIC PRODUCTS INC.

MICROWAVE DEVICE OPERATIONS
 Mountain View, California

CIRCUIT DESIGN INFORMATION ⁷

Grid 1 Voltage Range	0 to -170	Vdc
Grid 2 Voltage Range ³	100 to 350	Vdc
Helix Voltage Range	150 to 350	Vdc

January 10, 1961

SYLVANIA

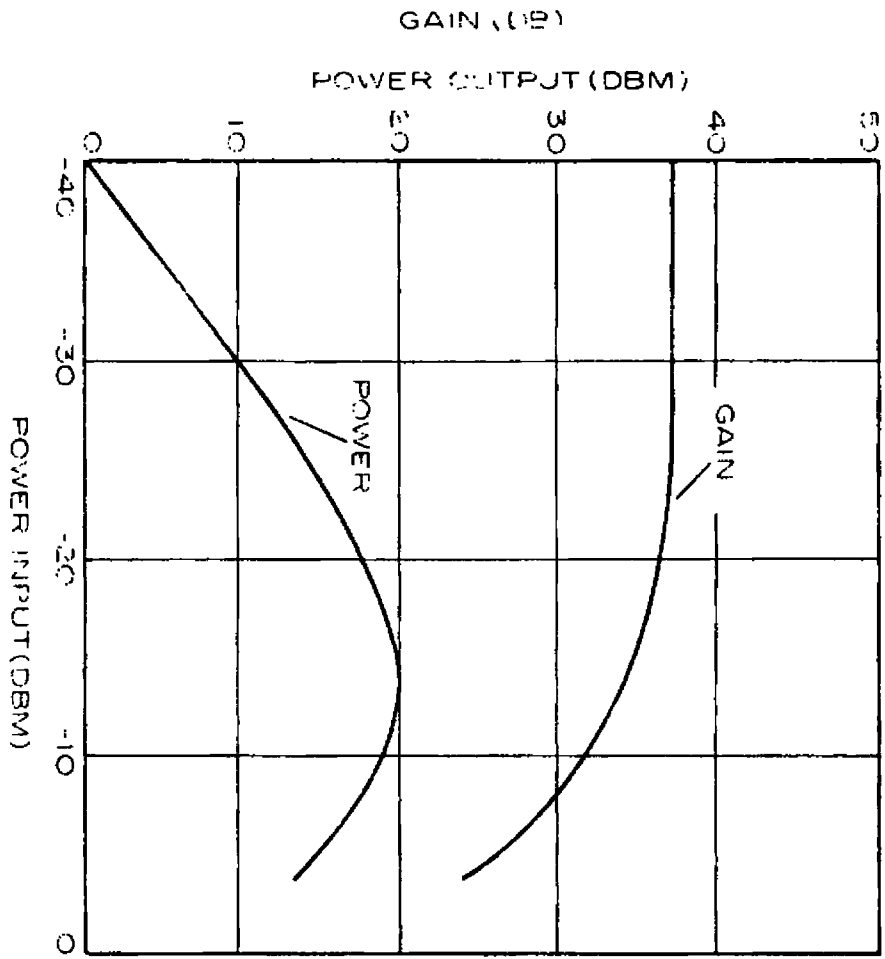
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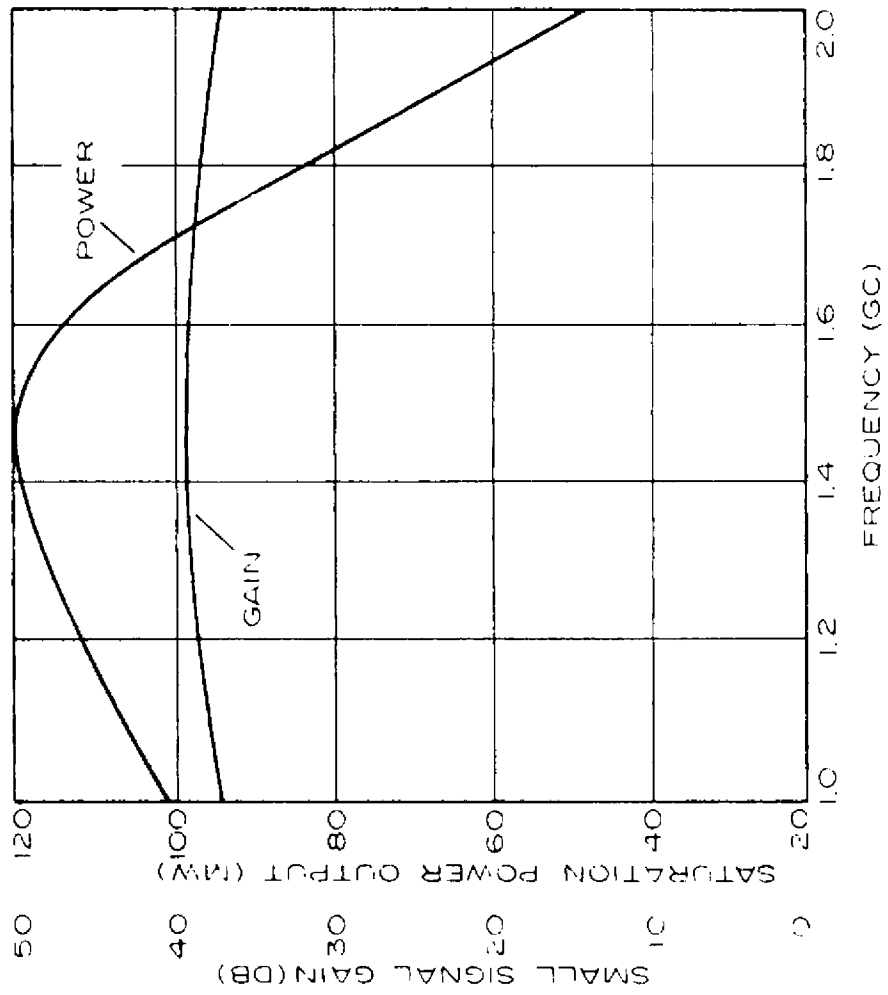
NOTES:

1. Alternative connectors supplied on request.
2. In addition to the cooling air requirements for the solenoid used with this tube it is recommended that at least 0.04 lbs/min of less than 100°F cooling air be passed along this tube.
3. All voltages given are with respect to cathode except where specified otherwise. Any one of pins A, B, C, D, E, or the collector may be connected to pin F which, for safety, should be grounded.
4. The quoted tube performance is for operation in a Sylvania-approved solenoid. Additional information will be supplied on request.
5. This voltage should be set to the value stated on the data sheet supplied with each tube.
6. As measured by a broadband bolometer with a frequency response from 0.5 to 10.0 Gc.
7. Ranges include values required as a result of initial spread in tube characteristics as well as those to accommodate changes throughout life.
8. For initial setup, it is desirable that grid 2 voltage be adjustable upward from zero.

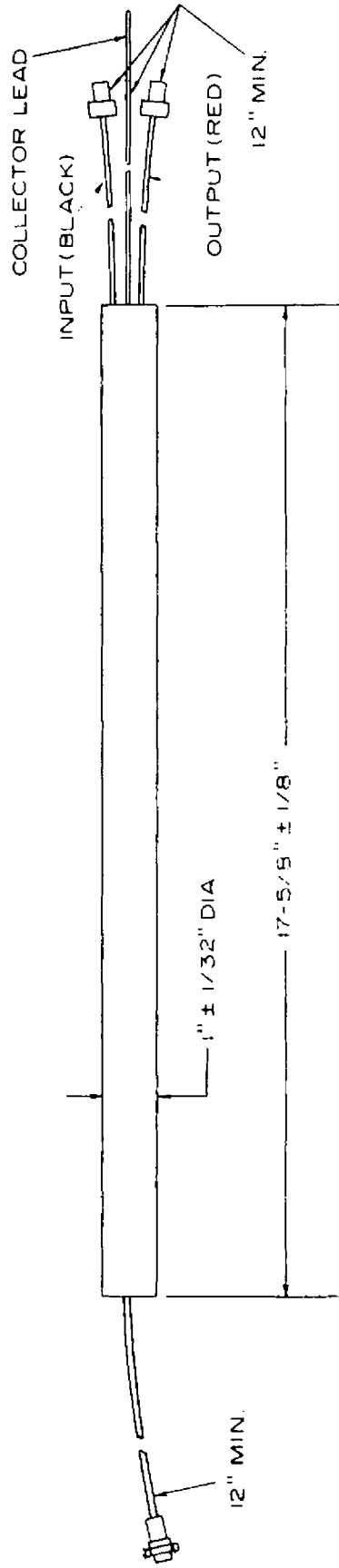
TYPICAL PERFORMANCE CHARACTERISTICS



Type 6753



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