

These ratings represent those of current samples of this type. Refer to the Objective Technical Information sheet for design-objective ratings.

This technical information is proprietary and is furnished only as a service to customers.

ZM-3143

TRAVELING-WAVE TUBE

10 Watt CW Power Output
35 db Small Signal Gain

8000 - 10,000 Megacycles
30 db Noise Figure

Periodic Permanent Magnet

The ZM-3143 is a ruggedized, medium-power, broadband traveling-wave tube for use in the 8000-to-10,000-megacycle frequency range. This tube has a small signal gain of 35 decibels across the entire frequency range and a CW power output of 10 watts (100% duty).

The tube is of metal-and-ceramic construction and is supplied as a complete packaged assembly which includes the periodic permanent magnet focusing structure, r-f connectors, housing and d-c flying leads. The entire assembly weighs approximately 2 pounds.

The broad bandwidth, high gain, freedom from tuning adjustments, and rugged construction make this tube particularly useful in military systems. Applications include radar, electronic countermeasures and communications equipment.

GENERAL

ELECTRICAL

Frequency	8000 - 10,000	Megacycles
Heater		
Voltage, nominal	8.5	Volts
Current, nominal	0.8	Ampere
Heater regulation of ± 2 percent is recommended for optimum life. Either a-c or d-c power may be used.		
Focusing Method - Periodic Permanent Magnet		
Noise Figure, maximum	30	Decibels
Small Signal Gain, minimum	35	Decibels
Saturated CW Power Output, minimum	10	Watts
Collector Dissipation, maximum	120	Watts
Impedance, Coaxial	50	Ohms
Input, VSWR	Less than 2.5 to 1	
Output VSWR	Less than 2.5 to 1	

MECHANICAL

Mounting Position - Any		
Connectors		
DC Supply - Flying Leads		
RF Connectors, Coaxial		
Input - Type TNC, Female		
Output - Type TNC, Female		
Over-all Dimensions, approximate		
Length	8.9	Inches
Diameter, excluding connectors	1.5	Inches
Height, including connectors	2.2	Inches
Weight (Complete Assembly), approximate	2	Pounds

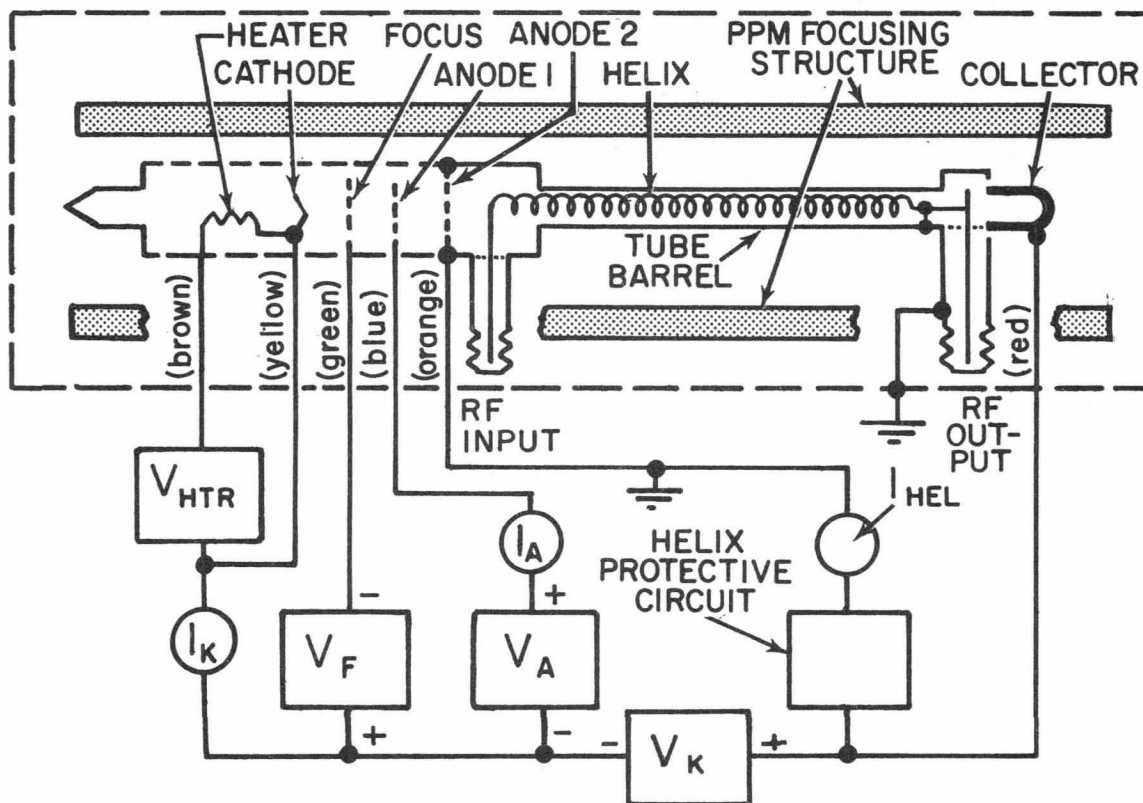
THERMAL

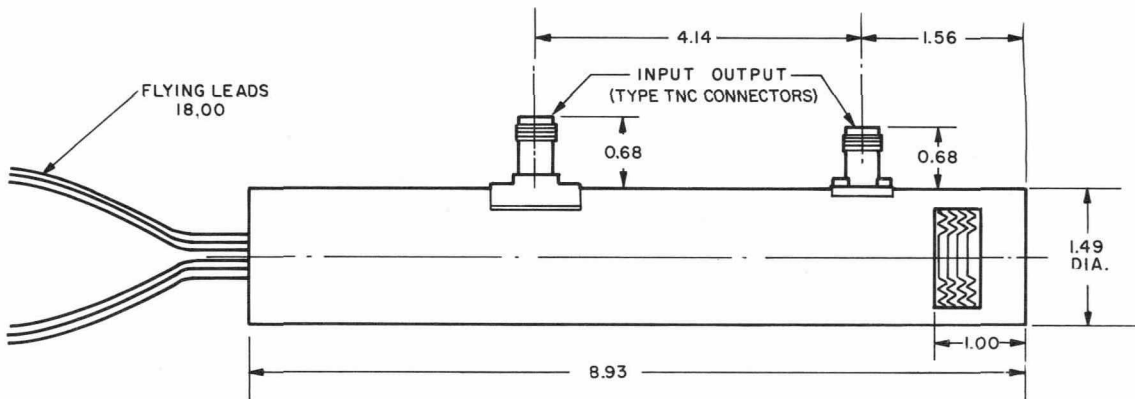
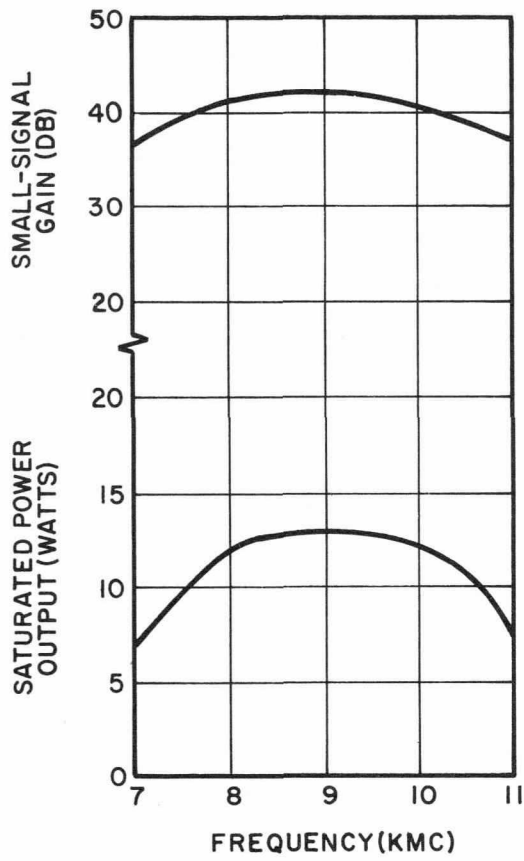
Cooling - Forced Air
(A liquid-cooled version is also available.)

TYPICAL OPERATING CONDITIONS*

Cathode Voltage (with respect to ground)	2300 to 2600 Volts
Cathode Current	40 to 55 Milliamperes
Focus-Electrode Voltage (with respect to cathode)	0 to -10 Volts
Anode-No. 1 Voltage (with respect to cathode)	350 to 450 Volts
Collector Voltage (with respect to ground)	0 Volts
Helix Current, maximum	10 Milliamperes

*It is necessary to operate this tube with the helix at ground potential (see connection diagram below). For rated performance, voltages should be adjusted to values specified by instructions accompanying each tube.





DIMENSIONS ARE IN INCHES

