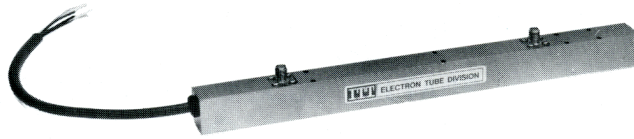


**ELECTRON TUBE DIVISION**  
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**F-2131**



# TRAVELING WAVE TUBE

## DESCRIPTION

The tube type 2131 is a miniature, lightweight, 25 watt CW traveling wave tube amplifier covering the frequency range of 7.0 to 17 GHz with 50 dB small signal gain. The tube uses a helix type slow wave structure and is PPM focused with samarium cobalt magnets. It is of metal-ceramic construction for rugged environmental applications. The tube is conduction cooled and may be mounted in any position. The collector is isolated and may be depressed up to 50% of the cathode voltage. Type SMA coaxial fittings are provided for RF input and output. An anode electrode is provided that may be used for gain, current control and ion trapping.

## RF PERFORMANCE

	Typical Values	Performance Limits
Frequency .....	7.0-17.0 GHz	7.0-17.0 GHz
Output Power .....	30 Watts	20 Watts Min.
Power Gain .....	57 dB	45 dB Min.
Noise Figure .....	30 dB	32 dB Max.
Duty Cycle.....	CW	CW

## ELECTRICAL REQUIREMENTS

	Typical Values	Performance Limits		
		Min.	Max.	Units
Cathode Voltage .....	-3900	-3600	-4000	Volts
Cathode Current .....	95	—	130	mA
Anode Voltage .....	180	-4000	500	Volts
Heater Voltage .....	6.3	6.0	6.6	Volts
Heater Current .....	.7	—	.8	Amp
Helix Current .....	5	—	12	mA
Collector Voltage .....	-1950	—	-2000	Volts

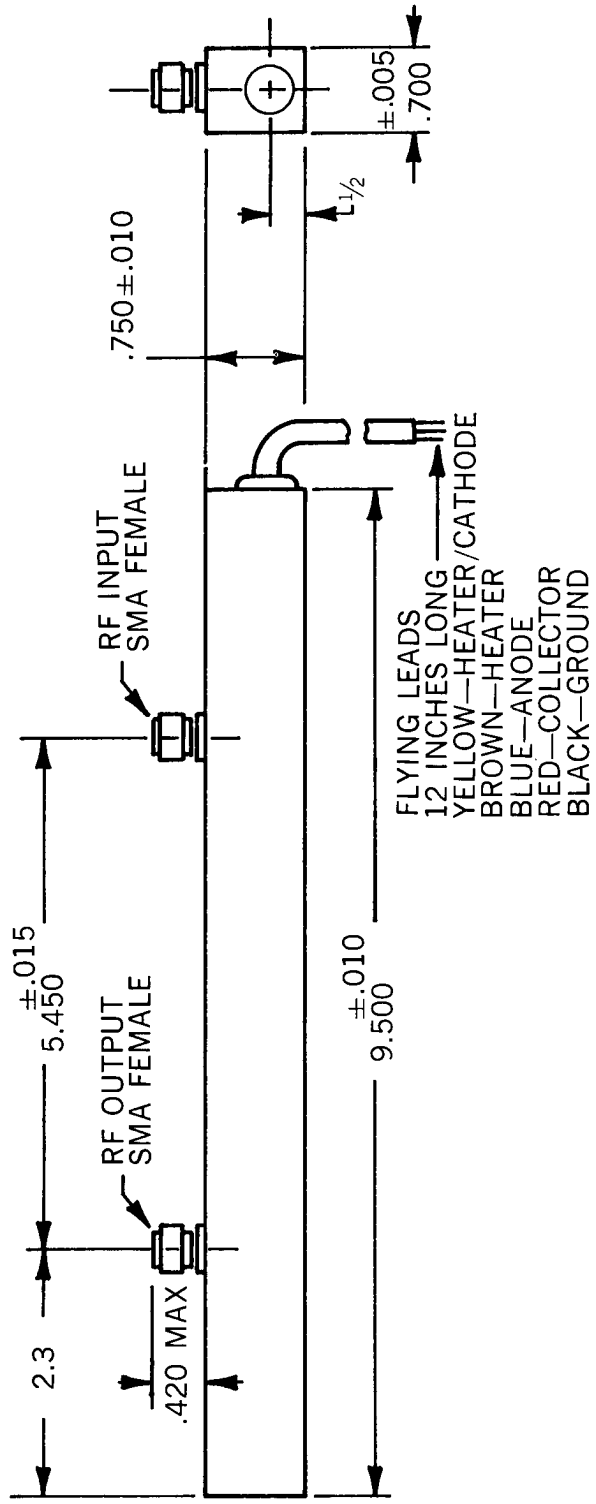
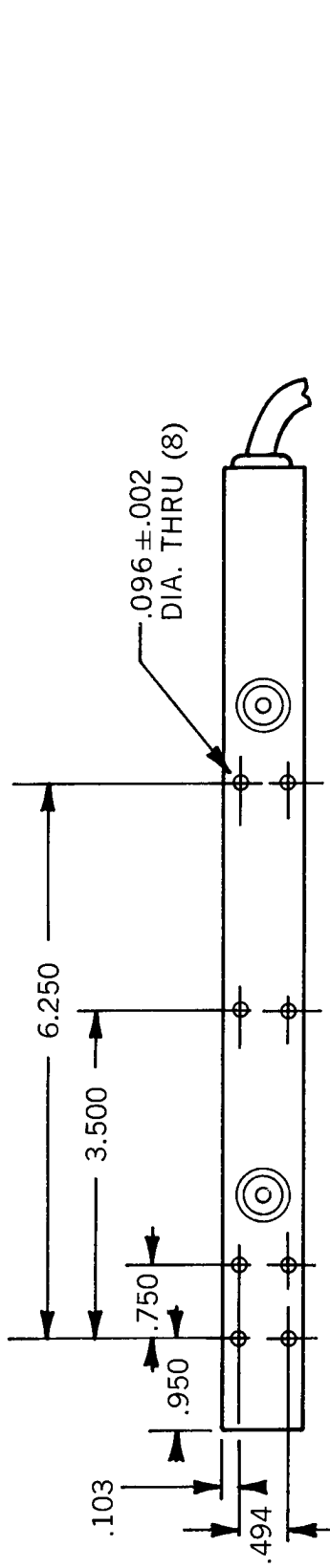
## MECHANICAL

RF Connections .....	SMA Female
DC Connections .....	Flying Leads
Cooling (NOTE 1) .....	Conduction
Weight .....	.75 Pounds
Mounting Position .....	Any
Construction .....	Metal-Ceramic
Focusing .....	PPM

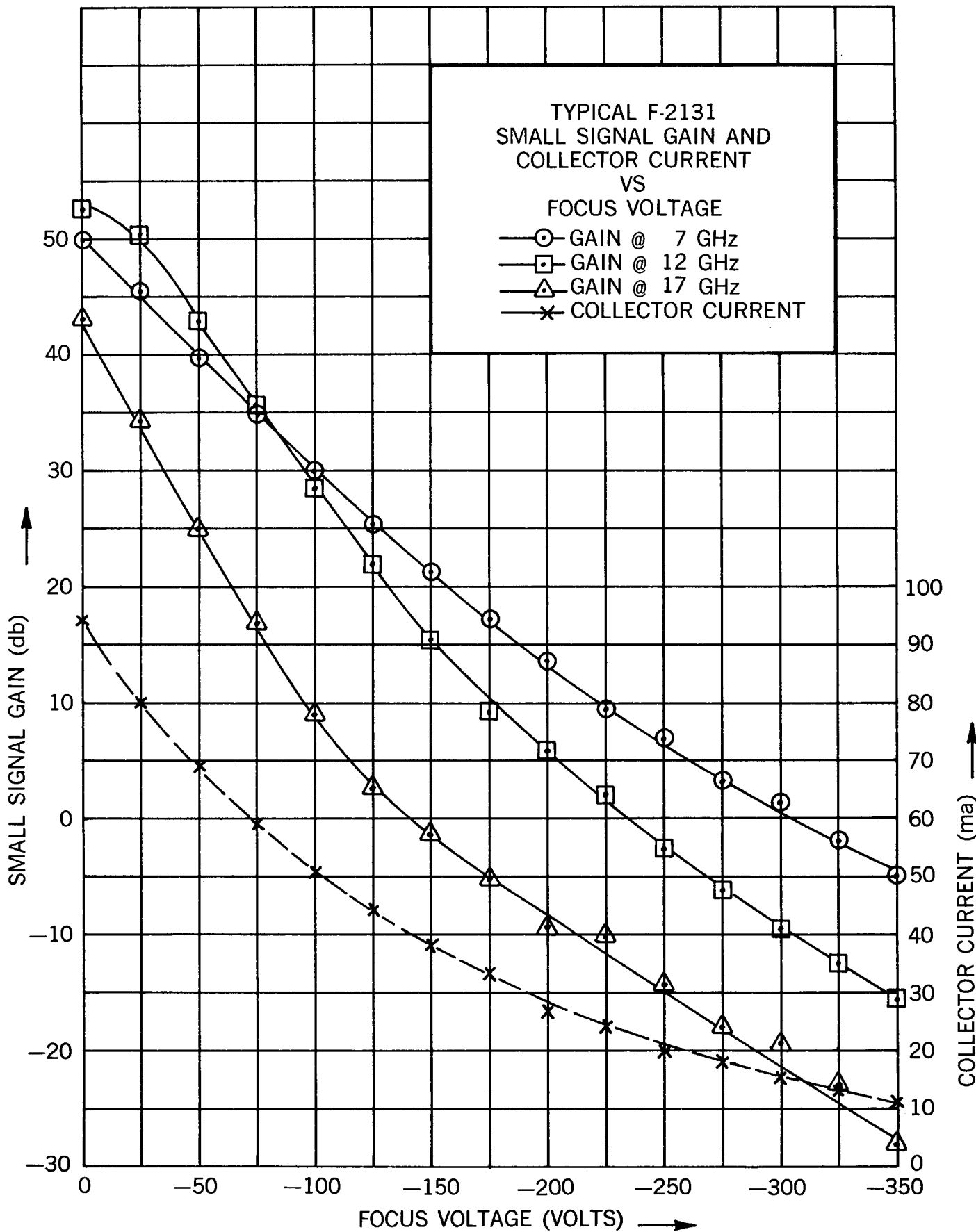
## ENVIRONMENTAL

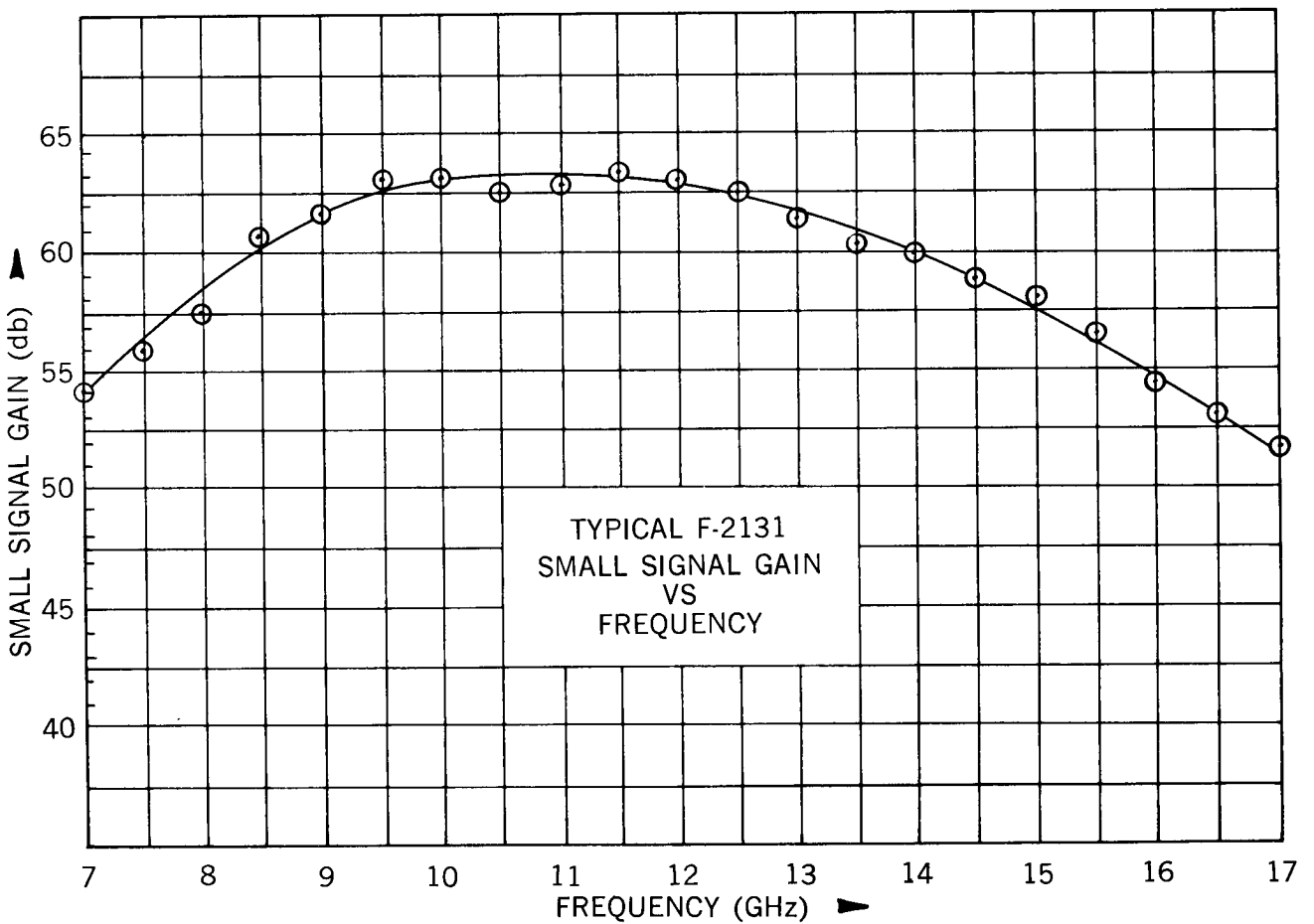
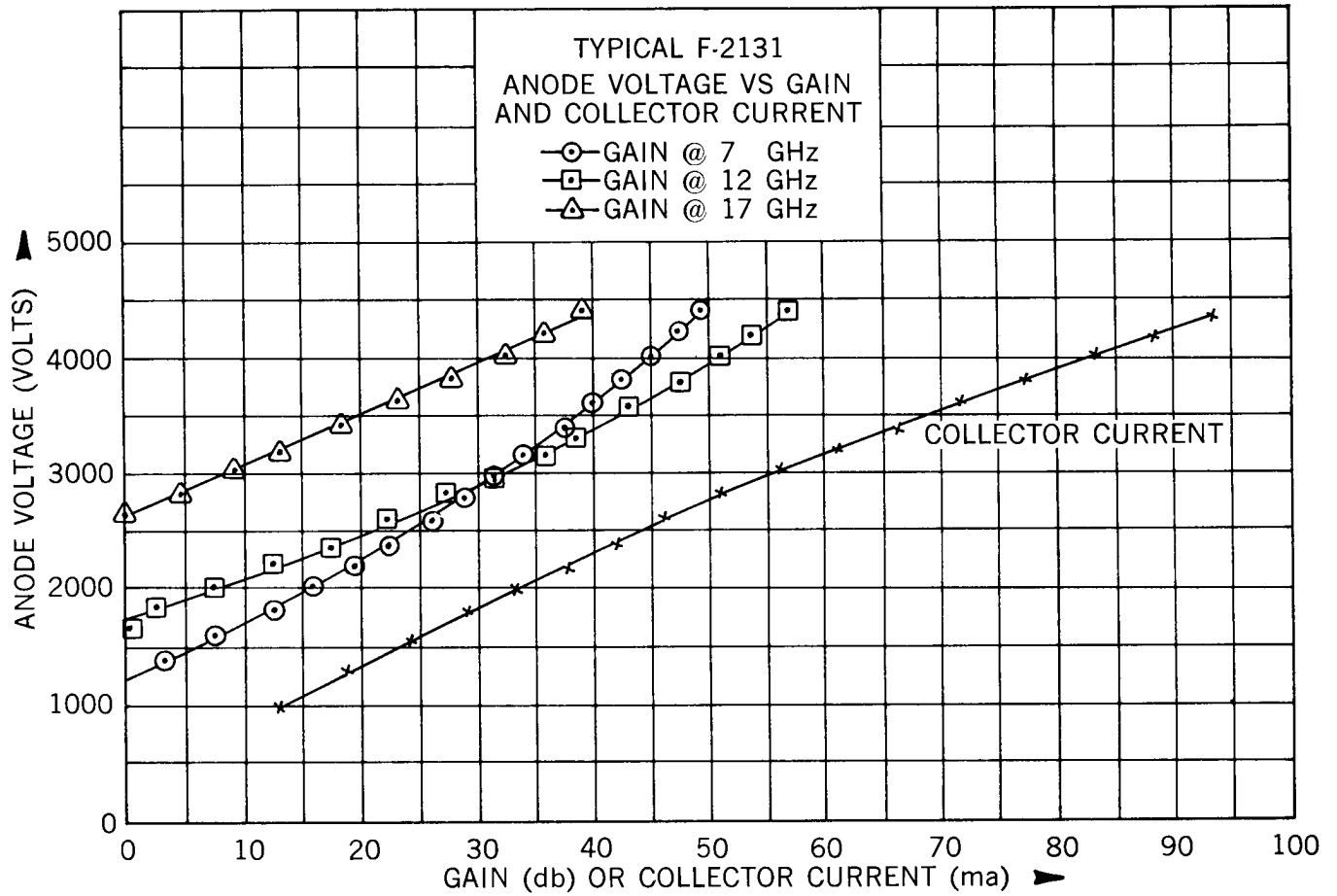
Shock .....	40G, 11 millise
Vibration .....	30G, 5-2000 cycles
Temperature .....	-45 to +85° C

NOTE 1: For proper conduction cooling the tube must be securely fastened to a flat heat sink surface. The use of heat sink compound (astrodyne 829 or equivalent) is recommended.



F-2131 OUTLINE





# F-2131

