



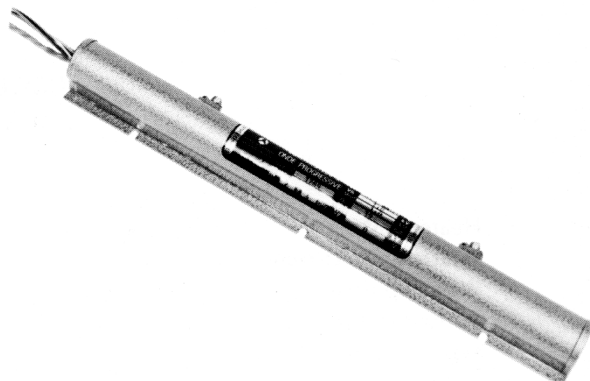
TRAVELING WAVE TUBE TOP 1289 TWTA's AMP 1415 and BFA 1298

The TOP 1289 traveling wave tube is a broadband amplifier providing a minimum saturated output power of 10 W from 2.2 to 4.0 GHz, and 8 W from 2.0 to 2.2 GHz. The gain exceeds 33 dB. Integral P.P.M focusing reduces the stray magnetic field and saves weight.

The TOP 1289 is cooled by natural convection and conduction. Because of its small size, light weight, and ruggedness, this tube is especially attractive for airborne and other mobile applications.

The AMP 1415 TWTA, equipped with the TOP 1289 traveling wave tube, is ideal for laboratory measurements, as a wideband amplifier in radar and communications equipment, and for antenna pattern measurements. In addition to the TWT, this amplifier incorporates a power supply, a modulating circuit and protection devices.

The BFA 1298 TWTA is a lightweight, compact, adjustment-free microwave amplifier, incorporating the TOP 1289. Of sturdy construction, it is intended for use in airborne and other mobile equipment, radio links and space communications.



GENERAL CHARACTERISTICS

Electrical (1)

Frequency	2.0 to 4.0	GHz
Heater voltage, typical	6.3	V
Heater current	0.2 to 0.5	A
Output power:		
- from 2.2 to 4.0 GHz, min.	10	W
- from 2.0 to 2.2 GHz, min.	8	W
Gain :		
- from 2.2 to 4.0 GHz (at 10 - W output), min.	35	dB
- from 2.0 to 2.2 GHz (at 8 - W output), min.	33	dB
Helix voltage	1.9 to 2.1	kV
Helix current	0 to 4	mA
Anode voltage	1.0 to 1.2	kV
Anode current	- 100 to +100	μ A
Collector voltage	1.0 to 1.2	kV
Collector current, max.	53	mA

(1) All voltages are referred to the cathode.



Mechanical

Operating position	Any
Weight (approx.)	700 g
RF connections	OSM 206/1 (Omni-Spectra) coaxial connectors
Supply connections	Flying leads
Cooling	Natural conduction and convection

ABSOLUTE RATINGS
(non-simultaneous values)

	Min.	Max.	Units
Heater voltage	6.0	6.6	V
Heater surge current	—	0.55	A
Warm-up time	3	—	mn
Cathode current	—	60	mA
Helix voltage	1.8	2.2	kV
Helix current	—	6	mA
Anode voltage	—	1.3	kV
Collector voltage	0.9	1.3	kV
Load VSWR	—	3 : 1	
Collector dissipation	—	70	W
Ambient temperature	-40	+120	°C
Vibrations	—	1 mm between 10 and 50 Hz	

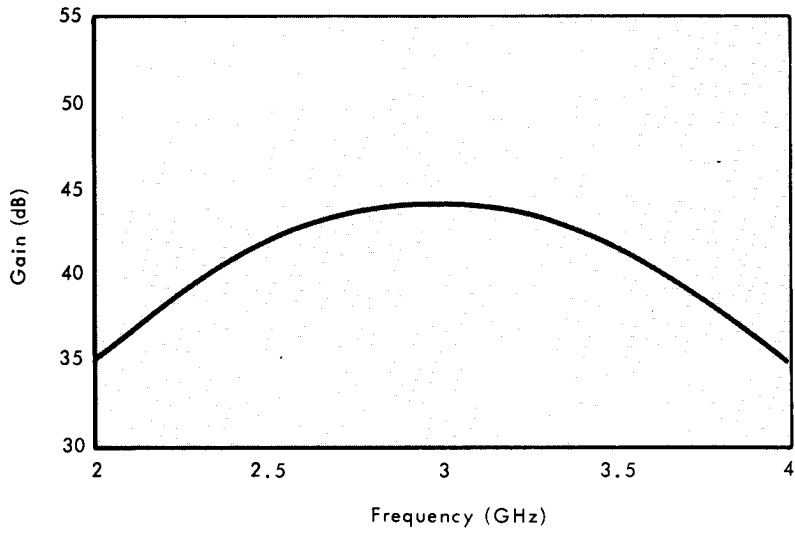
TYPICAL OPERATION

Frequency	3	GHz
Heater voltage	6.3	V
Heater current	300	mA
Drive power	0.45	W
Output power	14	W
Gain	45	dB
Helix voltage	1.95	kV
Helix current	1.5	mA
Anode voltage	1.1	kV
Anode current	0	
Cathode current	46.5	mA
Collector voltage	1.2	kV
Collector current	45	mA

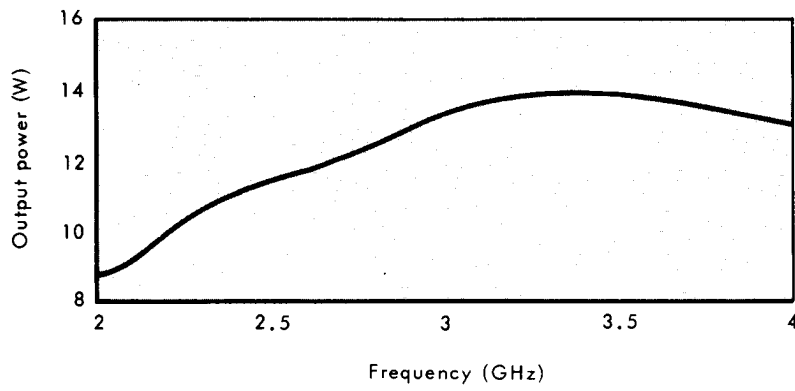
The Wehnelt must be connected to the heater-cathode terminal.



SATURATED GAIN

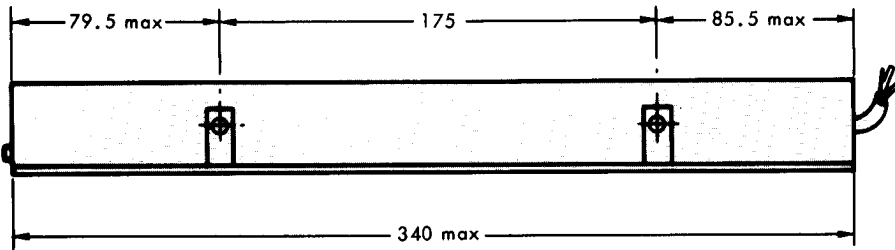


SATURATED OUTPUT POWER

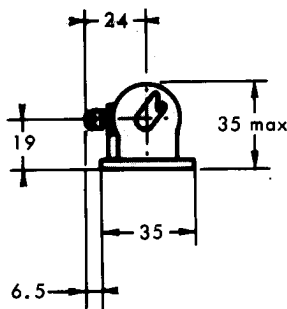
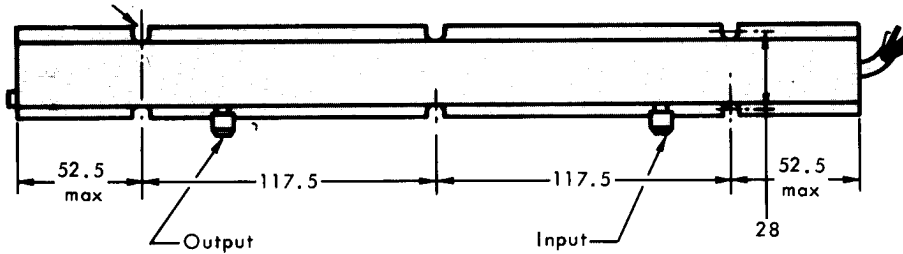




OUTLINE DRAWING



Fastening slots, width 4.5



CONNECTIONS	
Brown	Heater
Yellow	Heater-cathode
Green	Wehnelt
Blue	Anode
Red	Collector
Orange	Ground-helix
Grey	Thermal switch
White	Thermal switch (insulated wire)

(Wire length: 350 mm)

