

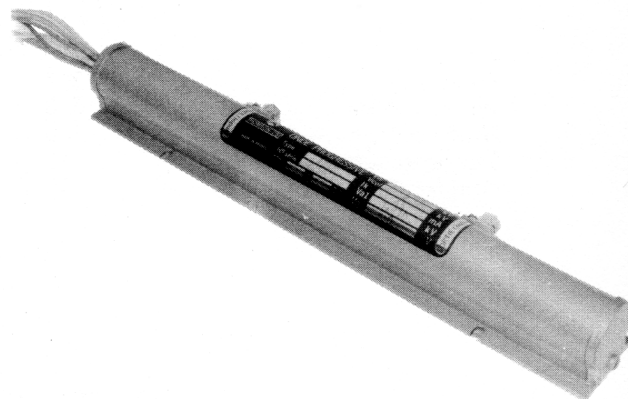


## TOP.1409 TRAVELING WAVE TUBE

The TOP.1409 traveling wave tube is a medium power amplifier, used in telecommunication systems. This tube is capable of providing a minimum output power of 20 watts in the frequency range from 3300 to 4200 megahertz (for an input power of 3.2 milliwatts) and a saturated output power of at least 25 watts.

Depressed collector operation reduces power supply requirements.

The TOP.1409 traveling wave tube is cooled by conduction and focused by a permanent magnet.



### GENERAL CHARACTERISTICS

Electrical (1)	min. max.			min. max.		
Frequency .....	3300	4200	MHz	Helix current .....	-	3 mA
Heater voltage .....	6.2	6.4	V	Anode voltage .....	2.3	- kV
Heater current .....	0.9	1.3	A	Anode current .....	-0.5	+0.5 mA
Saturated output power .	25	-	W	Collector voltage ....	1.2	1.8 kV
Gain .....	38	-	dB	Collector current .....	-	70 mA
Helix voltage .....	2.3	2.6	kV	Noise factor .....	-	30 dB

(1) All voltages are referred to the cathode.

### Mechanical

Operating position .....	horizontal or vertical
Approximate weight .....	550 g
RF connexions .....	OSM plug 206/1
Supply connections .....	flexible leads
Cooling .....	conduction

### ABSOLUTE RATINGS (non simultaneous.)

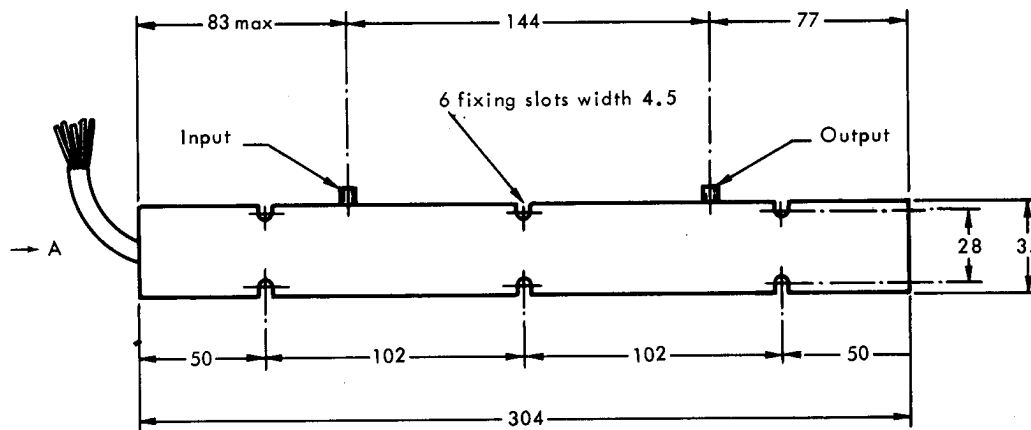
	min.	max.		min.	max.	
Heater voltage .....	6.0	6.6	V	Anode current .....	-1	+1 mA
Heater current .....	-	1.5	A	Collector voltage .....	1.1	2.0 kV
Temperature limits ..	-10	+50	°C	Collector current .....	-	80 mA
Helix voltage .....	2.2	2.8	kV	Collector dissipated power	-	130 W
Helix current .....	-	4	mA	Output power .....	-	30 W
Anode voltage .....	-	2.4	kV	Load VSWR .....	-	2 : 1



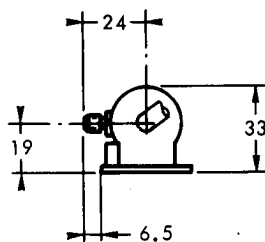
**TYPICAL OPERATION**

Frequency . . . . .	3.7	GHz	Helix voltage . . . . .	2.45	kV
Heater voltage . . . . .	6.3	V	Helix current . . . . .	0.7	mA
Heater current . . . . .	1.0	A	Anode voltage . . . . .	2	kV
Saturated output power . . . . .	32	W	Anode current . . . . .	0	mA
Gain for $P_o = 20$ W . . . . .	40	dB	Collector voltage . . . . .	1.5	kV
			Collector current . . . . .	65	mA

**OUTLINE DRAWING**



A VIEW



CONNECTIONS

Brown	Heater
Yellow	Cathode
Green	Wehnelt
Blue	Anode
Red	Collector
Orange	Ground - helix

Dimensions in mm.

