

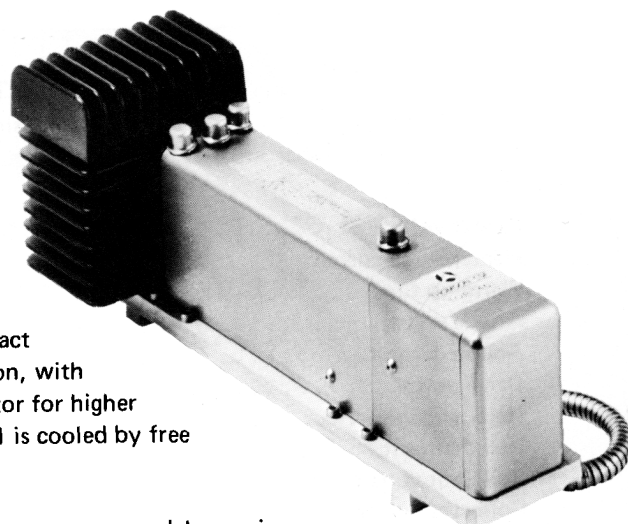
TOP 1401 25 W PPM-FOCUSED TWT

The TOP 1401 is a medium-power, helix-type, wideband traveling-wave tube, well-suited for pre-amplifier or power amplifier use in the earth stations of satellite communications systems. Operating in C band, in the range 5.9 to 6.5 GHz, it delivers more than 25 watts of CW power at the output, with minimum small-signal gain equal to 35 dB.

A periodic permanent magnet beam-focusing assembly is an integral part of the TOP 1401. This compact and lightweight TWT may be mounted in any orientation, with no degradation in performance. Using a depressed collector for higher efficiency and reduced power consumption, the TOP 1401 is cooled by free convection alone.

Its wideband, helical slow-wave circuit, good average power, and low-noise characteristics make the TOP 1401 also an excellent choice for microwave radio-link applications.

Based on extensive actual operating experience, a useful operating life of 30,000 hours or more can be expected from this TWT.



GENERAL CHARACTERISTICS

Electrical

Frequency range	5.925 to 6.425	GHz
Output power, at saturation	≥ 25	W
Gain at rated power	≥ 35	dB
Efficiency	≥ 20	%
Noise figure	28	dB
Heater current	0.8 to 1.2	A
Anode voltage, maximum	1.80	kV
Helix voltage	3.60 to 3.95	kV
Collector voltage	2.30 to 2.40	kV
Collector current	45 to 55	mA



Mechanical

Operating position	Any
Dimensions	See outline drawing
Weight (approx.)	8 kg
RF Connections	UG 344/U Flanges
Power supply connections	Flying leads
Cooling	By convection

ABSOLUTE RATINGS
(non-simultaneous)

	Min.	Max.	Units
Heater voltage	6.2	6.6	V
Heater surge current	—	2.0	A
Warm-up time	3	—	mn
Anode voltage	—	2.0	kV
Anode current	— 1	+ 1	mA
Drive power	—	10	mW
Helix voltage	3.5	4.0	kV
Helix current	—	4	mA
Collector voltage	2.2	2.7	kV
Collector current	—	60	mA
Collector dissipation	—	140	W
Ambient temperature	— 10	+ 50	°C
Load VSWR	—	2 : 1	

TYPICAL OPERATION

Frequency	6	GHz
Output power	25	W
Gain	38	dB
Anode voltage	1.55	kV
Anode current	0	mA
Helix voltage	3.85	kV
Helix current	0.6	mA
Collector voltage	2.30	kV
Collector current	50	mA



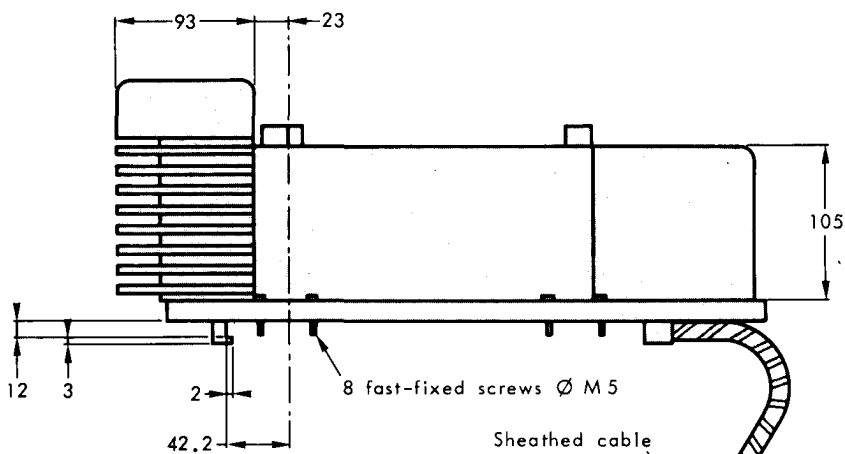
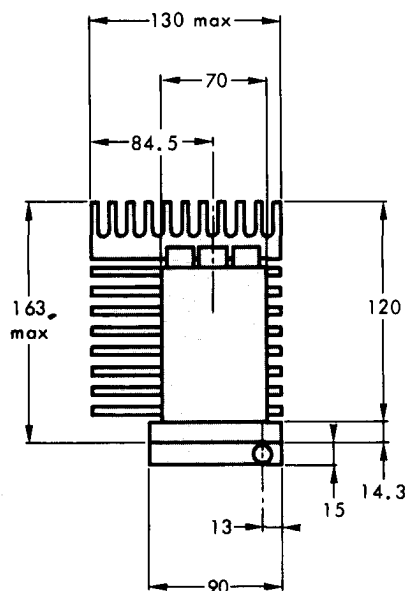
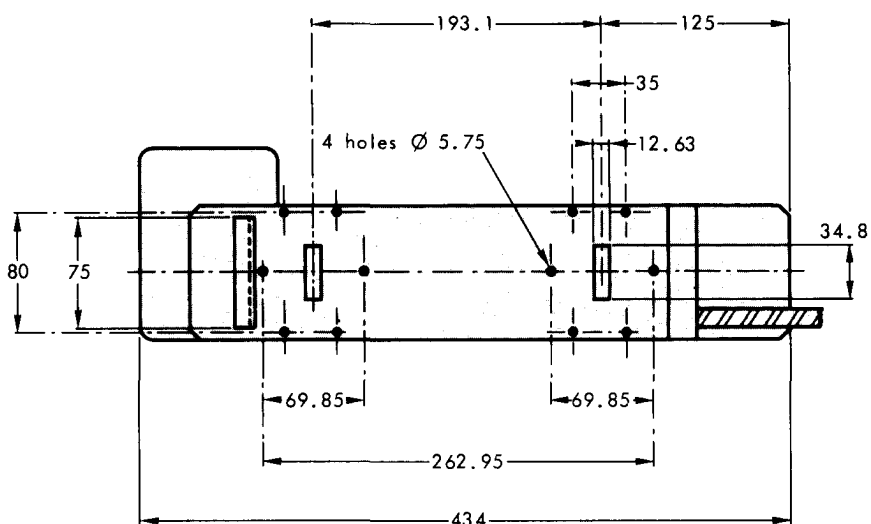
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DATA TEH 4358

TOP 1401

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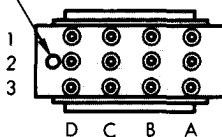
OUTLINE DRAWING



PIN IDENTIFICATION	
A1	Helix
A3	Heater
B1	Collector - Ground
C1 - D1	Protection circuit
C3	Anode
D3	Heater - Cathode - Wehnelt

Male index

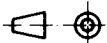
View following F



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Sheathed cable

Dimensions nominal, in mm.



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