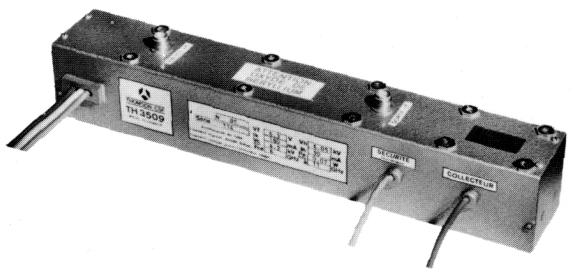
TOP 3509 TRAVELING WAVE TUBE

Features :

- High reliability ;
- Long life ;
- Low weight ;
- Rugged construction.



The TH 3509 is a traveling wave tube delivering more than 150 W in the 7.0 to 11 GHz frequency range, which has been specially designed for ECM systems.

Featuring PPM focusing and all ceramic-metal construction, this tube is highly rugged and operates under the most severe environmental conditions. The TH 3509 is available in conduction-cooled configuration (cooled through the plate).

GENERAL CHARACTERISTICS

Electrical (1)

	min.	avg.	max.	
Frequency	7.0	–	11	GHz
Heater voltage	–	6.3	–	V
Heater current	2.4	–	2.9	A
Output power	150	–	–	W
Gain	30	–	–	dB
Efficiency (saturated output)	20	–	–	%
Collector voltage - nominal value (2)	– 0.1	–	helix voltage	kV
Helix voltage - nominal value (2)	– 0.2	–	+ 0.1	kV
Anode voltage - nominal value (2)	–	–	+ 0.1	kV
Helix current - nominal value (2)	–	–	+ 50	%
Anode current	– 1.0	–	+ 4.5	mA
Cathode current	–	–	200	mA
Load VSWR	–	–	1.2 : 1	

Mechanical

Operating position	any
Weight, approximate	1.75 kg
RF input and output connections	TNC
Supply connections	flying leads
Cooling	conduction

(1) All voltages are referred to the cathode.
(2) Tolerances with respect to the nominal value given on the individual test sheet of each tube.

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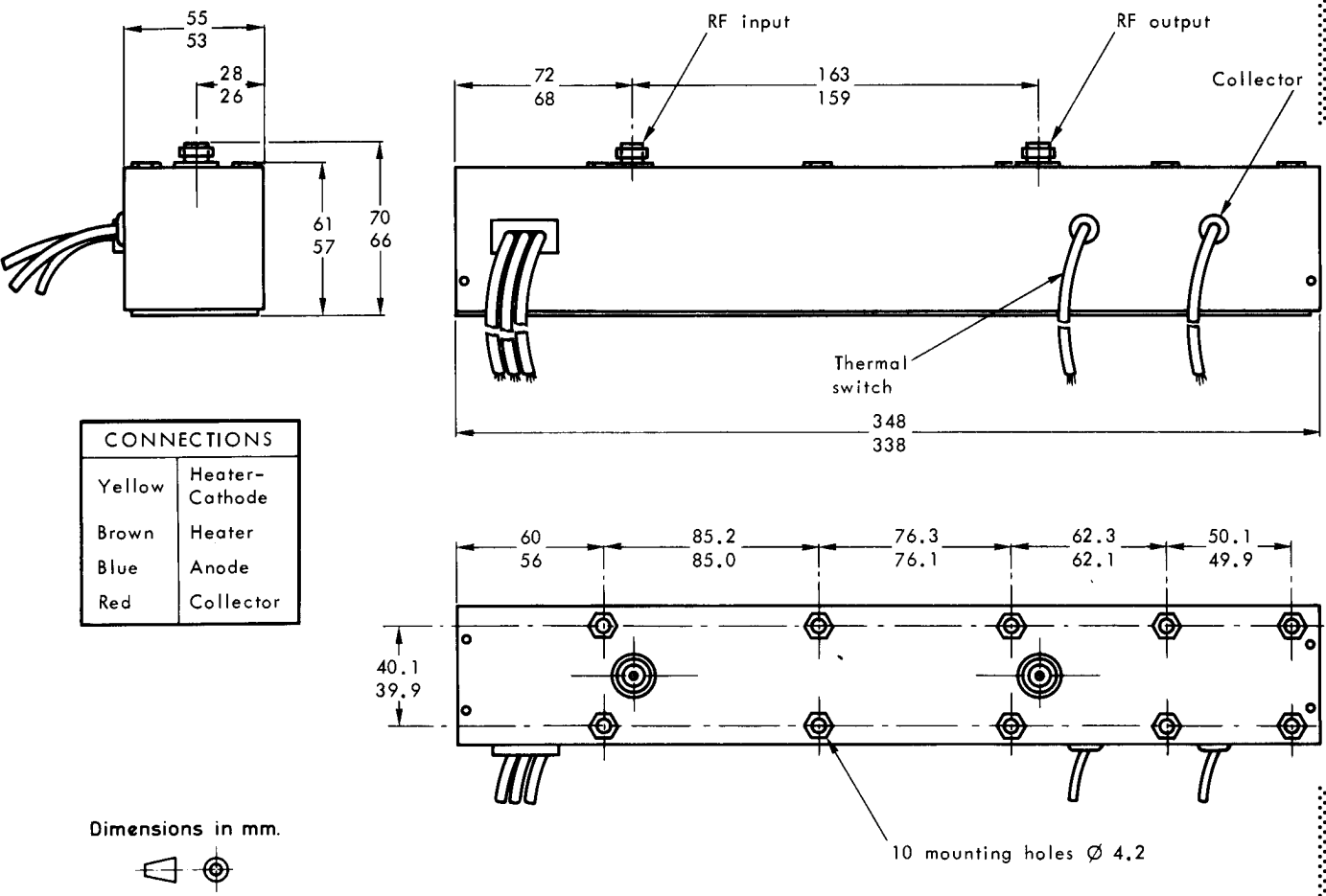
ABSOLUTE RATINGS

	min.	max.	
Surge heater current	–	5.0	A
Heater voltage	6.0	6.6	V
Warm-up time	3	–	mn
Collector voltage	2.9	helix voltage	kV
Helix voltage	5.8	6.5	kV
Helix current	–	35	mA
Anode voltage	4.5	5.5	kV
Anode current	–	5	mA
Cathode current	–	210	mA
Collector dissipation	–	1200	W
Drive power	–	0.07	W
Load VSWR	–	2.1 : 1	
Heat sink temperature	–	110	°C

NOTE - Voltages should be applied in the following order : heater, collector, helix and anode.
Anode voltage should never be applied to the tube if any one of the other voltages is not applied.

OUTLINE DRAWING



CONNECTIONS	
Yellow	Heater-Cathode
Brown	Heater
Blue	Anode
Red	Collector

Dimensions in mm.