Descriptions of Three Mechanical Variations
YJ1540 is air cooled without thermoswitch
YJ1540-1 is water cooled with thermoswitch
YJ1540-2 is air cooled with thermoswitch

CONTINUOUS-WAVE MAGNETRON

Packaged, metal-ceramic, forced-air cooled, continuous-wave magnetron with integral r.f. cathode filter. The tube is intended for microwave heating applications and features cold-start operation and high efficiency. Under typical operating conditions the output power is 1260 W. This lightweight tube may be mounted in any position.

QUICK REFERENCE DATA

Frequency, matched load	f	2,46 GHz
Output power	W_o	1260 W
Construction	packaged, metal-ceramic	
Cathode	thoriated tungsten, cold start, quick heating	
R.F. cathode filter	integral	
Cooling	forced-air	

TYPICAL OPERATION

Conditions

Filament voltage	V_f	4,4 V
Anode supply (see *Design and operating notes*)	LC stabilized half-wave doubler	
Average anode current	I_a	400 mA
Cooling, rate of flow	q	1700 l/min
Pressure drop	P_i	190 Pa

Performance (at matched load see Fig. 6; for other load conditions see Fig. 4)

Filament current	I_f	14 A
Anode voltage, peak	V_{ap}	4,5 kV
Frequency	f	2,46 GHz
Output power, VSWR < 1,1	W_o	1260 W
Efficiency	η	70 %

HEATING

Thoriaded tungsten, cold start, quick-heating cathode

Filament voltage	V_f		3,8 to 4,8	V
Filament current at V_f = 4,4 V, I_a = 0	I_f		14	A
Cold filament resistance	R_{fo}		40	mΩ
Pre-heating time (waiting time)	t_w	min.	10	s

GENERAL DATA

Electrical

Frequency, fixed within the band	f		2,445 to 2,47	GHz

Mechanical

Mounting position	any			
Mass		≈	1,3	kg

LIMITING VALUES (Absolute maximum rating system)

Filament voltage	V_f	max.	4,8	V
		min.	3,8	V
Anode current				
mean	I_a	max.	450	mA
peak	I_{ap}	max.	1600	mA*
Anode voltage	V_a	max.	5.0	kV
Anode input power	W_{ia}	max.	2,25	kW
Temperature at reference point (see outline drawing)	T	max.	180	°C**
Storage temperature	T_{stg}	max.	60	°C
		min.	−30	°C
Voltage standing-wave ratio				
during max. 0,02 S and max. 20%	VSWR	max.	4	
	VSWR	max.	10	*

* Under no circumstances should the magnetron be permitted to mode. Amongst other conditions, the moding stability of a magnetron depends on the RF loading conditions such as VSWR, phase of reflection, and coupling section. It also depends on peak anode current, mean anode current, and current waveform.

** For short periods a maximum anode temperature of 240 °C may be allowed.

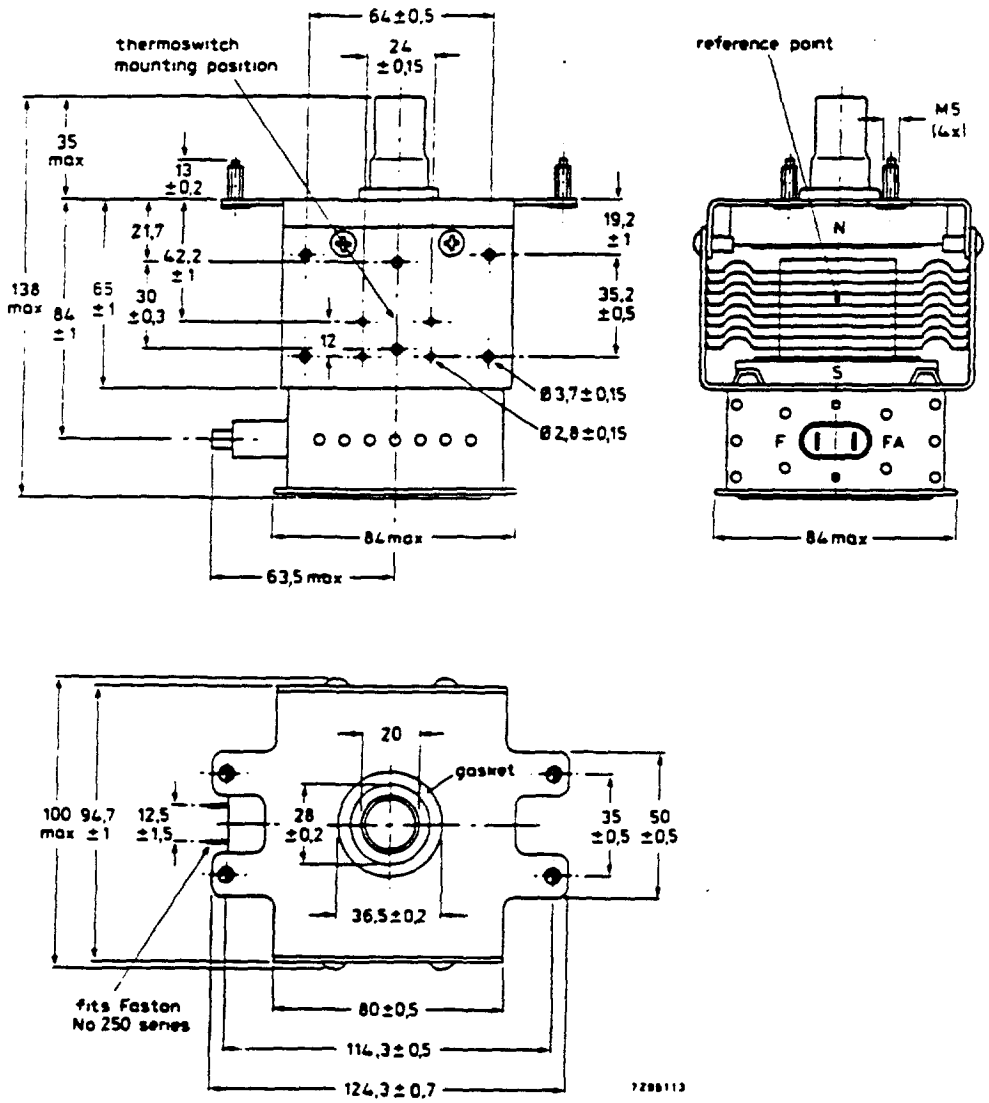
YJ1540

MECHANICAL DATA

Dimensions in mm

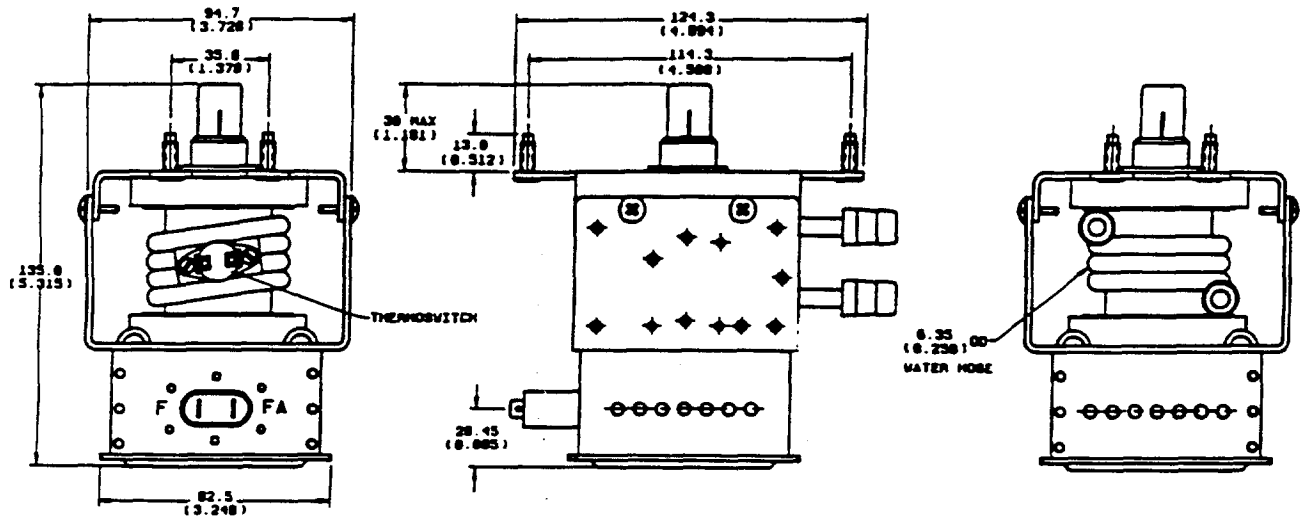
Mounting position: any

Net mass: approx. 1,1 kg



YJ1540-1

All Dimensions for Reference
Dimensions In: mm (inch)



YJ1540-2

All Dimensions for Reference
Dimensions In: mm (inch)