2M22629F

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TEST SPECIFICATION (NOTE)

Description : Continuous Wave Magnetron, 2450 MHz, Fixed Frequency

1. Absolut Maximum Ratings :

	Symbol	Min	Max	Unit	Note
Filament Voltage	Ef	2.85	3.75	Vac	
Pre-heating Time	tk	0	—	s	
Average Anode Current	Ib	—	350	mAdc	
Peak Anode Current	ibm	—	1.2	Ap	
Peak Anode Voltage	ebm	—	4.5	kVp	
Average Anode Input	pi	—	1.4	kW	
Load VSWR (continuous)	σL	—	4	—	(15)
Anode Core Temperature	Tp	—	300	°C	(3)
Filter Case Temperature	Tcase	—	120	°C	
Antenna Temperature	Ta	—	360	°C	
Storage Temperature	—	-30	60	°C	

2. General Test Condition :

	Symbol	Value
Filament Voltage	Ef	3.3 Vac
Pre-heating Time	tk	8 sec
Average Anode Current	Ib	300 mAdc
Load VSWR	σL	1.1 Max
Cooling Air Flow	Q	1.0 m^3/min
Test Equipment		Page 11 ~ 12/12
Power Supply ----------	Single-phase,full-wave rectifier without filter	

3. Test Specifications :

Item	Symbol	Nominal	Min	Max	Unit	Note
Filament Current	If	11.0	9.5	12.5	Aac	
Peak Anode Voltage	ebm	4.10	3.90	4.30	kVp	(5)
Average Output Power	Po	900	860	950	W	(5)
Frequency	fo	2455	2445	2465	MHz	

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1. Test Specifications (continued) :

Item	Symbol	Nominal	Min.	Max.	Unit	Note
**Sink Phase (at σ_L=4)	$l_o/\lambda g$	0.29	0.26	0.32	—	(6)
**Pulling Figure (at σ_L=4)	fpl	40	—	48	MHz	(6)
*Stability (at $\sigma_L \leqq 4$)	(STIb)	—	300	—	mAdc	(10)(13)
Breakdown Voltage	(Et)	—	10	—	kVdc	(14)
(Raising voltage gradually, positive potential to anode : RL=100 kΩ)						
*Insulation (Et=1000vdc)	Rpf	—	100	—	MΩ	
*Leakage microwave	Pl	—	—	1	mW/cm^2	(7)(8)
(with 275mℓ water load, at 5cm from magnetron)						
**Leakage 5th Harmonics	—	—	—	57	dBpW	(16)
**Vibration Test	—	—	—	—	—	(2)(12)
**Mechanical strength (A)	—	—	4	—	kg	(9)
**Mechanical strength (B)	—	—	3	—	kg	(9)
**Mechanical strength (C)	—	—	10	—	kg	(9)
*Surge voltage	(epo)	—	—	10	kVp	(8)(11)(14)

Notes :

(1) "EIAJ-ED-1501/(Old)ET-145 Testing methods for continuous wave magnetron" by Electronic Industries Association of Japen, is referred.

(2) Breaking of filament should not be observed.

(3) Maximum rating for short time operation is given as follows.

1. 300°C ----Allowable at an operating for within 15 minutes
   (cumulated operating time should be within 50 hours)
2. 330°C ----Allowable at an operating for within 5 minutes
   (one time only)

(4) Classification of tests is given as follows.

Mark	Class
None	Production test
*	Design test
**	Type approval test

Marks are at the left of each test item.
(ex. *Surge voltage)

(5) These limits are defined as converted values to 25°C
Conversion should be done using the equation shown below.

$$ebm(T)=\{1-0.002(T-25)\}\ ebm$$
$$Po\ (T)=\{1-0.002(T-25)\}\ Po$$

(Where, ebm(T),Po(T) : Values at ambient temperature T(°C))

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(6) pulling figure is the difference between the maximum and the minimum frequency of oscillation that occurs when the phase of the reflection coefficient of the load is varied over the $\lambda g/2$. The sink phase is defined as the phase to give maximum change of the frequency and to give the same oscillating frequency as that at matched load.
In both cases, with the variation of phase, the load VSWR should be held at the stated value ($\sigma L=4$)

(7) Measured with Narda type 8110 radiation monitor.

(8) Measured with the microwave oven accepted by both parties.

(9) Mechanical strength (A) : The antenna cover should not be drawn out when it is pulled to the direction of antenna axis with stated force.
Mechanical strength (B) : Any degradation of breakdown voltage should not be observed after pressing the filter box with standard test finger with stated force.
Mechanical strength (C) : The terminals should withstand stated pulling force to the direction of terminal axis.

(10) Any instability such as moding or run-away should not be observed at any load phase.

(11) Filament terminal with in-phase mark ("F") should be connected to the filament transformer so as to have the same polarity as anode.

(12) Test conditions are as follows.
Amplitude : 2 mm (peak to peak)
Frequency : 25 Hz
Time of vibration : 10 minutes (for each of three directions)

(13) Distance from reference plane of magnetron (antenna axis) to mismatched point should be 27.6 inches (700 mm) min.

(14) Should not discharge continuously.

(15) Load match may vary to higher VSWR in application, but must be reviewed by LG(GoldStar) with regard magnitude,phase and dwell time.

(16) Microwave Oven : LG(GoldStar) Standard Model
Method of measurement : Reverberating Chamber
Load condition : volume of water : 250 ml in 500 ml beaker
position of load : center

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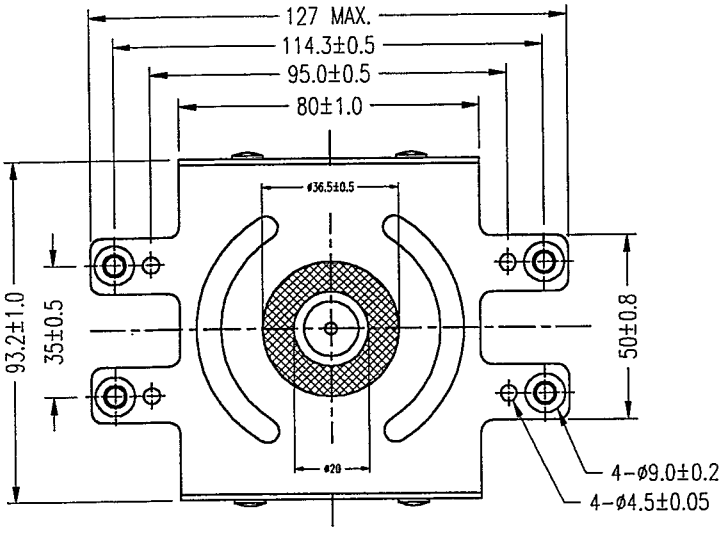
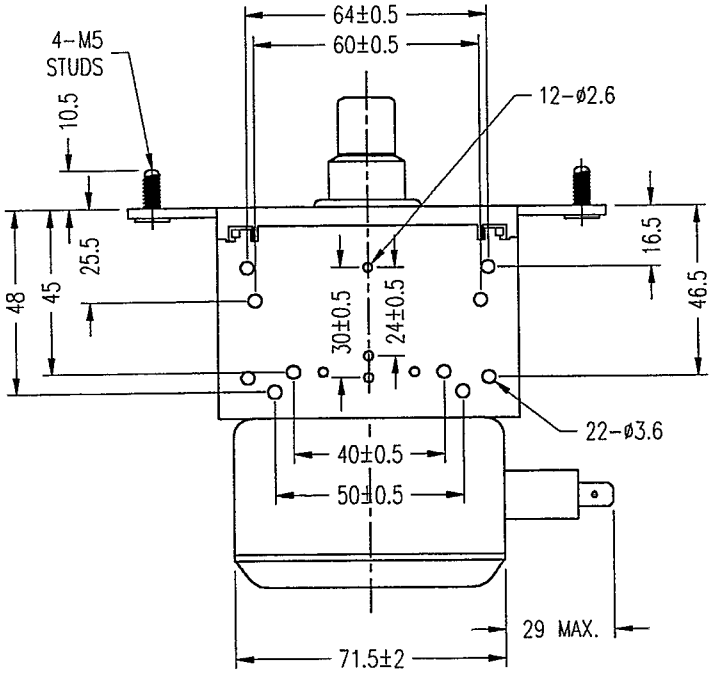
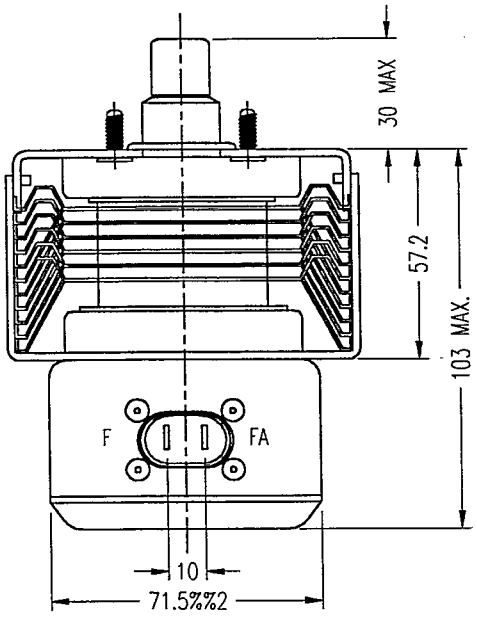
DIMENSIONS IN MILLIMETERS







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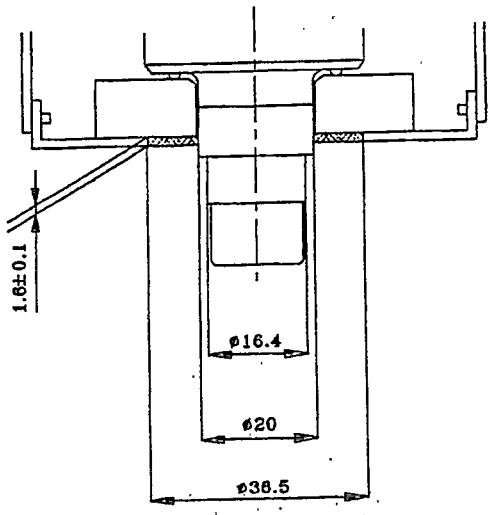
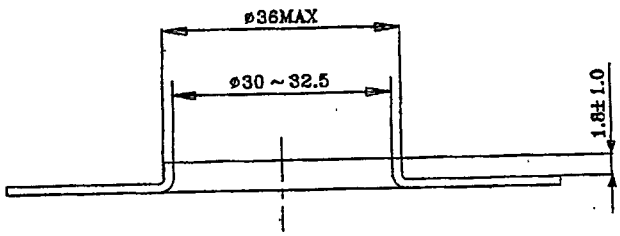
MOUNTING ON LAUNCHER

DIMENSIONS IN MILLIMETERS



Note : 1. This figure is without gasket.

2. Recommended structure of launcher



Note 1. Flatness of embossed edge should be better than 0.1 mm to avoid microwave leakage.
2. Recommended pressure on gasket is 20 to 40 kg

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