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LITTON INDUSTRIES, SAN CARLOS, CALIFORNIA

UHF MAGNETRON

RTMA Designation 6233
Manufacturer's Designation L-3023

General Characteristics

Electrical

Filament or Cathode (oxide coated)	Unipontential type	
Voltage	6.3	volts
Current (approx.)	1.0	amps
Frequency (adjustable)	9310	Mc

Typical Operation-Pulse

Field Strength(approx)	Packaged	
Anode Voltage	5800	volts
Anode Current(average)	.0077	amps
Power Output(average)	14	watts
Duty Cycle	.002	

Mechanical

See Outline Drawing

Maximum Ratings

Anode Voltage	6000	volts
Anode Current (Peak)	4	amps
Anode Current (average)	.012	amps
Anode Dissipation	50	watts
Anode Temperature	150	°C
Cooling	Air	
Power Output	21	watts

Description: Magnetron, tunable, pulse type, with integral magnet.

Ratings:	**Ef**	**epy**	**ib**	**pi**	**Pi**	**tk**	**Du**	**tp**	**Anode**	**rrv**
Absolute	**V**	**kv**	**a**	**kw**	**W**	**Sec**	**--**	**us**	**°C**	
Maximum	7.0	7.0	5	35	75	---	.003	1.0	+150	
Minimum	---	---	--	--	--	180	----	---	−55°	Note 9

Ref:	**Test**	**Conditions**	**Min.**	**Max.**
D-2	Type Approval:	Required for JAN Marking		
E-4d	**Salt Spray Corrosion:	Omit		
F-2	Electrode Insulation:	Omit		
F-3	Holding Period:	T = 168 hours		
F-6a	Drop:	Note 1		
F-6b(1)	*Vibration:	No voltage; t = 60; F = 25; Note 1		
F-6b(2)	**Vibration:	No voltage: t = 60; F = 50; G = 10		
F-5d	Dimensions:	Per Litton Industries Outline Drawing No. L-3023-5		
E-7c	Markings:			
F-10c	**Cooling:	Air, forced - Note 2	---	125°C
F-10d	**Cathode:	Unipotential, oxide coated		
F-5m	Pressurizing:	None		
F-6i	Heater current:	Ef = 6.3 V	If 0.90	1.10A
F-10e	Oscillation (1):			
F-10e(1)	Magnetic field:	Integrally attached permanent magnet		

Ref:	Test	Conditions	Min.	Max.
F-10e(2)	Heater:	tk = 180 sec. (Max.) at Ef = 5.7 V min. Note 5, Note 7		
F-10e(3)	Pulse Characteristics:	tp = 0.45 to 0.55 us; trv = 0.2 us (max.) Du = 0.003		
F-10e(4)	Average anode current	Ib = 11.5 mA. dc.		
	Anode temperature	T = 125°C Max.		
	Standing wave ratio	σ = 1.05 Max.		
F-10e(5)	Pulse voltage		epy: 5.5	6.0 kv
F-10e(6)	Power Output:	Method A; t = 300 sec. (Max.)	Po: 21	W
F-10e(7)	Frequency:	F: 9310 $\pm$ 1.5 Mc/s		
F-10e(8)	R.F. Bandwidth:	Ib = 10 to 12 mA. dc. Bandwidth:		5 Mc/s
F-10K	Pulling factor		PF:	20 Mc/s
	Stability	Note 3, Note 10		
F-10e	Oscillation (2):			
F-10e(1)	Magnetic Field:	Integrally attached permanent magnet		
F-10e(2)	Heater:	tk = 120 sec. (Max.) for Ef = 6.3V		
F-10e(3)	Pulse characteristics:	tp = 0.45 to 0.55 us; trv = 0.2 us (Max.) Du = .001 T = 25°C		
	Average Anode Current	3.8 mA. dc.		
	Frequency tuning band:	Note 4, Note 8	$9290-\frac{PF}{2}$	$9335+\frac{PF}{2}$
F-5p	**Thermal factor:	Oscillation (1) ΔF:		0.2 Mc/s/°C
F-5q	**Low Temperature operation	tk - 180 sec. (Max.) Oscillation (1)		
F-5m	Low pressure operation:	Omit		
F-4	Life Test:	Group D: Du = .002; tp = 0.5 us trv = 0.2 us (Max.) Ib = 7.7 mA. dc.; T = 150°C Max. Note 5	T; 500	Hrs.
F-4b	Life test end point:		Po: 11	W
		Bandwidth:	-----	6.0 Mc/s

Note 1: On evidence of satisfactory quality, the inspector may limit this test to ten tubes per month when the tube is in continuous production.

Note 2: Cooling air must be supplied to the tube in the amount which will maintain the anode at 125°C or below, up to the maximum duty cycle.

Note 3: The tube shall be considered stable when the number of missing pulses is a maximum of 0.5 percent of the total number of pulses during a five minute test period. A missing pulse is defined as any pulse containing less than 90 percent of the energy at the pi mode operating frequency contained in a normal pulse.

Note 4: At an anode temperature of 25°C, the tube shall tune to $9290-\frac{FT}{2}$ mc/s or lower in frequency, and to $9335+\frac{FT}{2}$ mc/s or higher in frequency, for 2.33 turns of the external tuner shaft.

Note 5: It is necessary to lower the heater voltage to 4.5 volts for operation at 0.002 duty or greater.

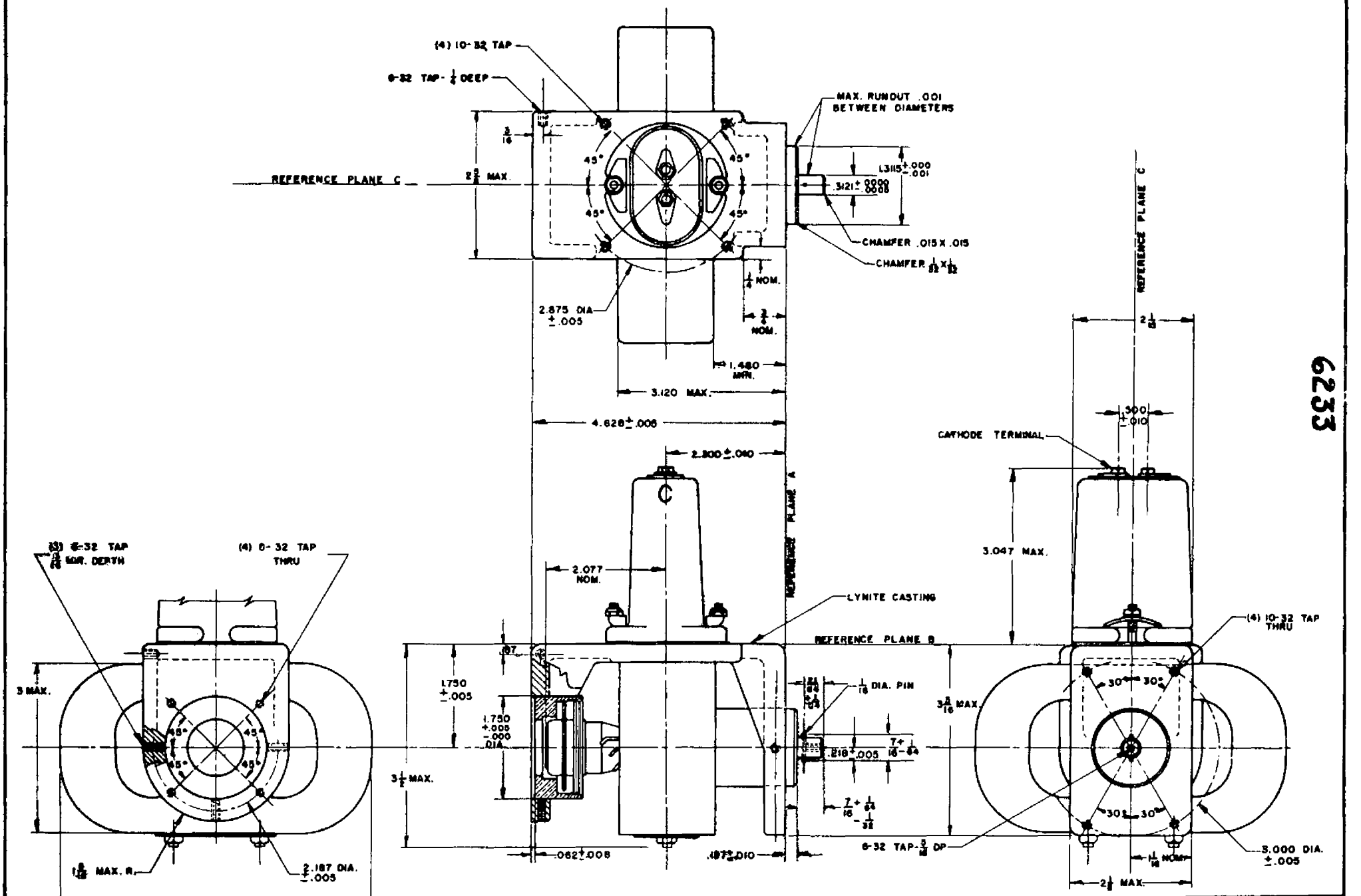
Note 6: Tube must withstand storage temperature of −65°C under non-operating conditions.

Note 7: Heater Supply Frequency: 380 - 1000 cps.

Note 8: Tuner torque shall be less than 10 oz. - in over a temperature range of −30°C to + 25°C.

Note 9: In equipment application the rate of rise of applied voltage pulse shall be sufficiently slow that the rate of rise of rf shall be limited by the rate of rise of applied voltage pulses.

Note 10: This test shall be the first test performed after the specified holding period. The counting period shall be any five minutes, at the discretion of the manufacturer, of a 15 minute operating period immediately following the shelf period.



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L-3023 - OUTLINE DRAWING

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