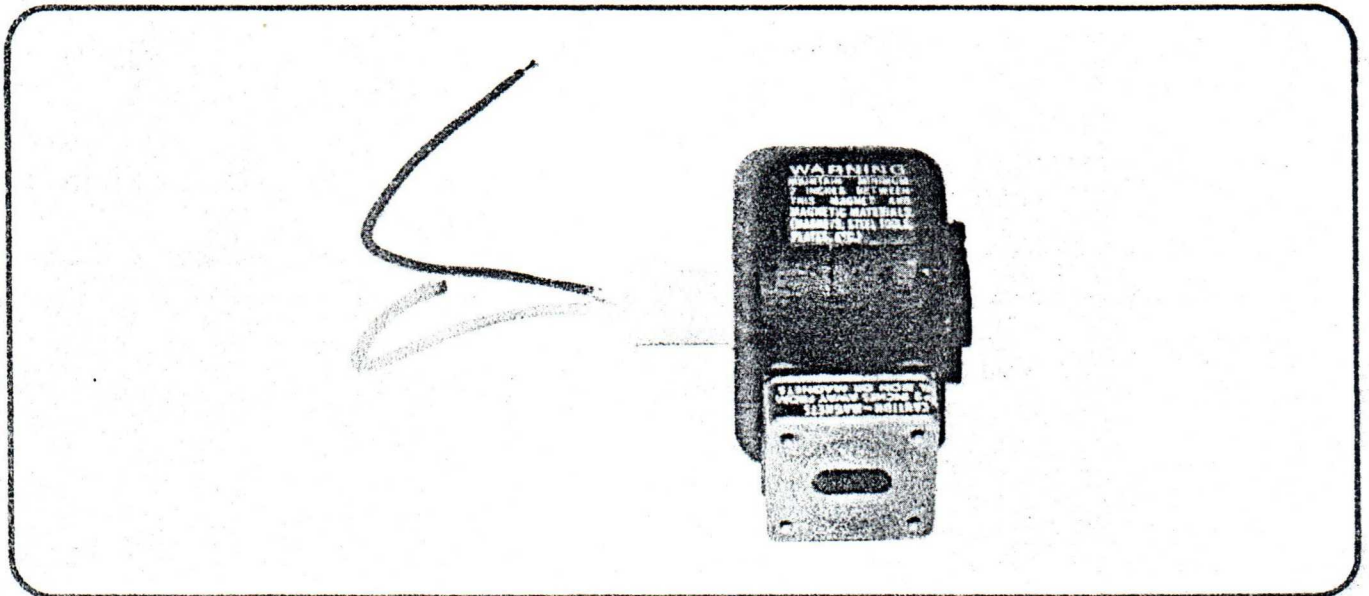


# RM-132/MA-2866

**Pulsed Ku - Band Coaxial Magnetron**

**Bulletin 1569**



## DESCRIPTION

A sturdy, lightweight unit incorporating coaxial design. The RM-132 provides efficient fixed frequency operation for Ku-band applications requiring a minimum peak power of 3000 watts with extreme frequency stability.

## APPLICATIONS

Beacon and navigation systems, transponders, and airborne radar equipment.

MICROWAVE ASSOCIATES, WATSONVILLE, INC. d/b/a

**RELMAG DIVISION • MICROWAVE ASSOCIATES, INC.**

For More Information Contact: **RELMAG DIVISION • Watsonville, California • Phone 408-722-7181**



**Microwave Associates, Inc.** Burlington, Massachusetts Tel: (617) 272-3000

Western Union Fax  
TWX: 710-332-6789  
Tel/Fax: 94-9464

## SPECIFICATIONS

### Electrical Characteristics

Peak Power	3000 W
Fixed Frequency	15458-15462 MHz
Pulling Factor (1.5:1 VSWR)	2 MHz Max.
Pushing Factor ( $\pm 5\%$ ib)	$\pm 5$ MHz
Missing Pulse Rate	0.1% Max.
Side Lobes	8 dB Min.
Thermal Coefficient	.025 MHz/ $^{\circ}$ C Max.

### Mechanical Characteristics

Size	See Outline Drawing
Weight	20 oz./567,0 g
Mounting Position	Any
Output Connector	Waveguide

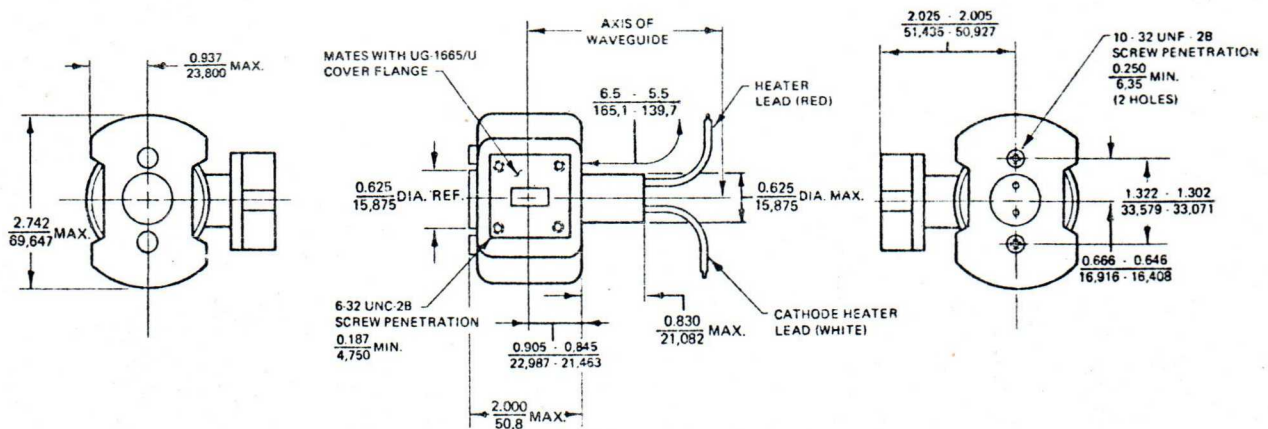
### Operating Conditions

Heater Voltage	6.6 VDC
Heater Current	0.7 A Max.
Preheat Time	60 Sec. Min.
Pulse Voltage	3400-3700 V
Pulse Current	3.0 A
Anode-Cathode Capacitance	20 pF Min.
Duty Cycle	.0001 Ratio Max.

### Environmental Characteristics

Cooling	Conduction and/or Air Cooled
Ambient Temperature	$-57^{\circ}$ C to $85^{\circ}$ C
Altitude	30,000/9,144 m
Vibration (20 to 2,000 Hz)	10 G

## OUTLINE DRAWING



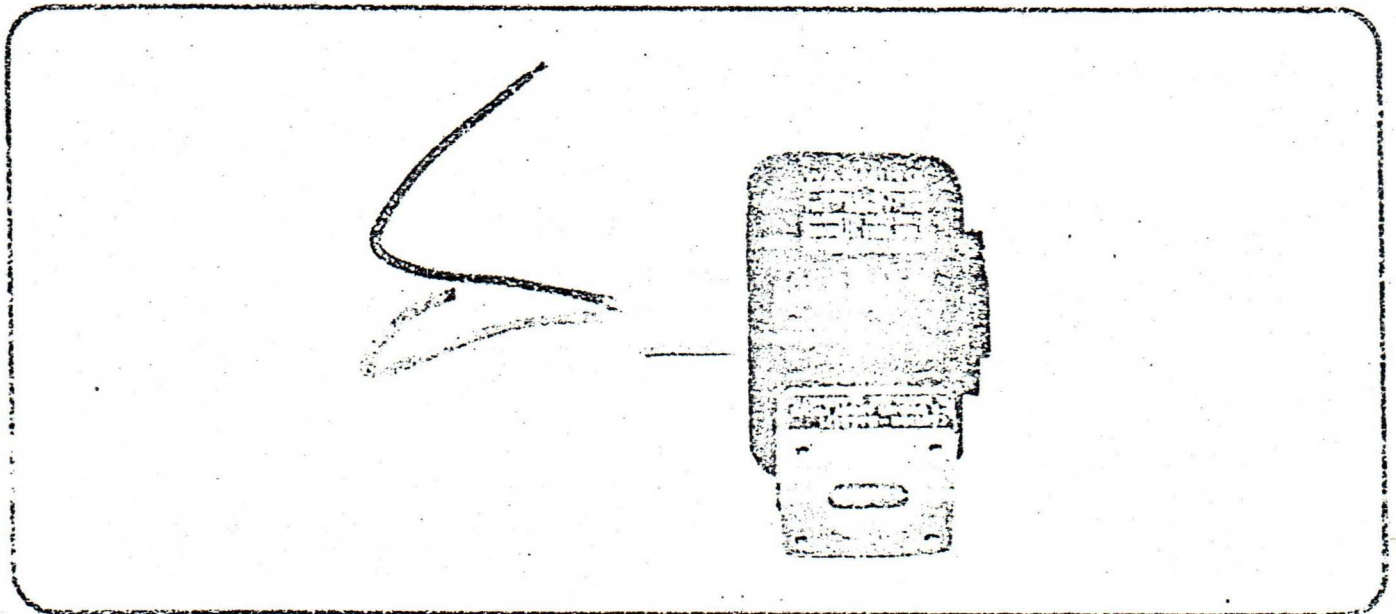
NOTE:

INCH
MM

# RM-132/MA-2866

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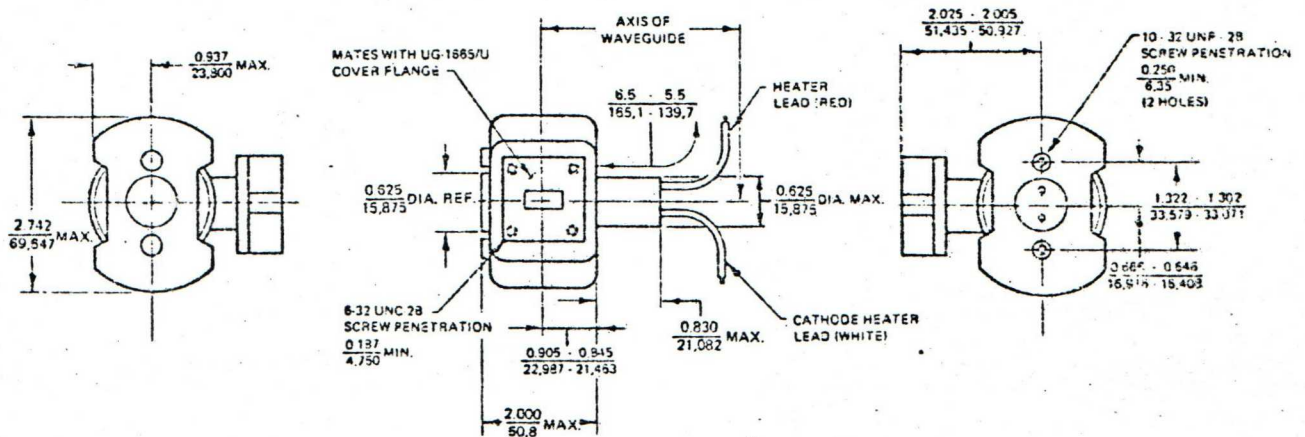
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Ambient Temperature	-57 $^{\circ}$ C to 85 $^{\circ}$ C
Altitude	30,000/9,144 m
Vibration (20 to 2,000 Hz)	10 G

## OUTLINE DRAWING



NOTE:

INCH
MM.

RM132

Input power (peak)  
Input power (mean) (see note 3)  
Duty cycle  
Pulse duration  
Rate of rise of voltage pulse (see note 4)  
Anode temperature (see note 5)  
V.S.W.R. at the output coupler

00048      0001

X TYPICAL OPERATION

Operational Conditions

Heater voltage  
Anode current (peak)  
Pulse duration  
Pulse repetition rate  
Rate of rise of voltage pulse

<u>1</u>	<u>2</u>	
6.6	6.6	✓
3.0	3.0	a
0.3	0.3	μs
1600	333	PPS
35	35	KV/μs

Typical Performances

Anode voltage (peak)  
Output power (peak)  
Output power (mean)

3500	3500	✓
3500	3500	W
1.68	0.35	W

TEST CONDITIONS AND LIMITS

The magnetron is tested to comply with the following electrical specification

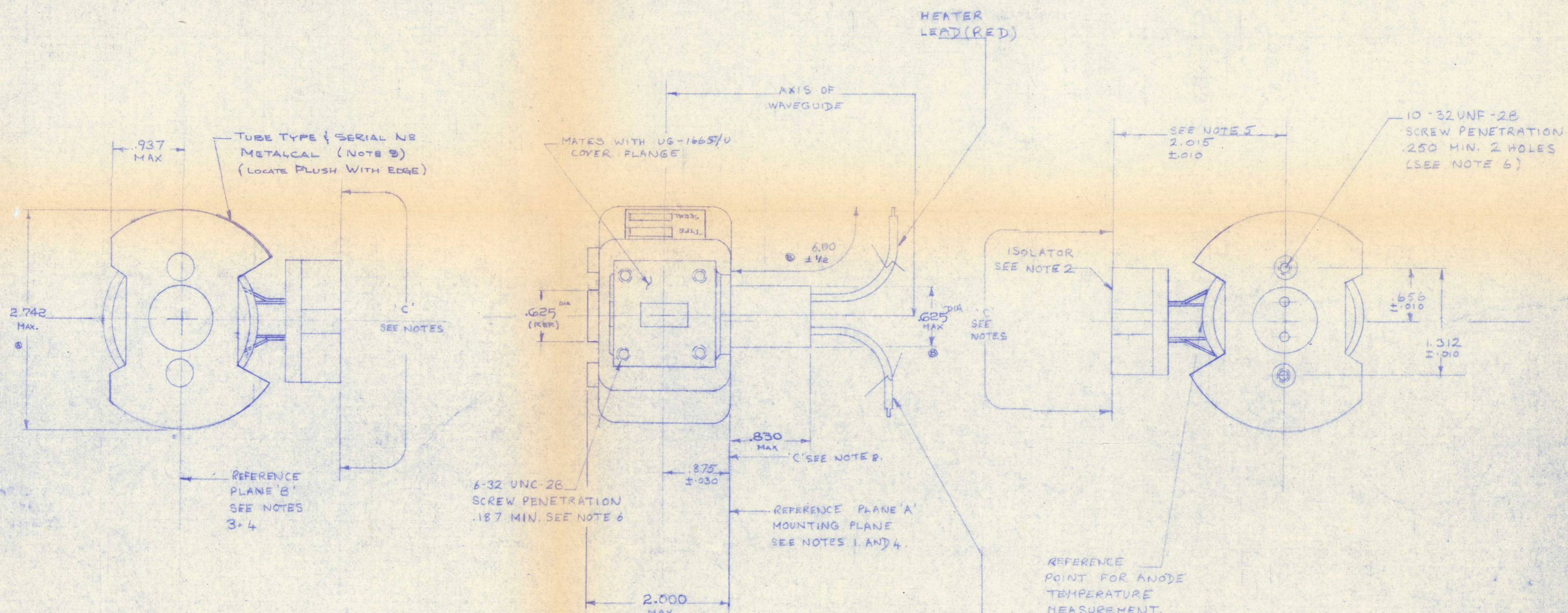
X Test Conditions

Heater voltage (for test)  
Anode current (mean)  
Duty Cycle  
Pulse duration (see note 6)  
V.S.W.R. at the output coupler  
Rate of rise of voltage pulse (see note 4)

6.6	6.6	✓
144	103	ma
100048	10001	μs
0.3	0.3	
1.3:1	1.3:1	
35	35	KV/μsec

Limits

Anode voltage (peak)  
Output power (mean)  
Frequency (see note 7)  
R.F. bandwidth at 1/4 power  
Frequency pulling (v.s.w.r. not less than 1.5:1)  
Stability (see note 8)  
Cold impedance  
Heater current  
Temperature coefficient of frequency



- NOTES:
- 1) REFERENCE PLANE A IS THE NORMAL MOUNTING PLANE.
  - 2) ISOLATOR IS AN INTEGRAL PART OF, AND MATCHED TO THE TUBE. THE OPENING IN THE OUTPUT END OF THE ISOLATOR WILL BE SEALED WITH AN RF WINDOW.
  - 3) REFERENCE PLANE 'B' PASSES THRU THE CENTER LINE OF THE CATHODE.
  - 4) REFERENCE PLANES 'A' + 'B' ARE MUTUALLY PERPENDICULAR.
  - 5) THIS TOLERANCE INCLUDES ALL LATERAL + ANGULAR DEVIATIONS.
  - 6) MOUNTING BOLTS SHALL BE NON MAGNETIC.
  - 7) PLACARD SHALL BE ATTACHED; "WARNING: MAINTAIN MINIMUM 2 INCHES SPACE BETWEEN THIS MAGNET AND MAGNETIC MATERIALS."
  - 8) ALL METAL SURFACES SHALL BE PAINTED LUSTERLESS BLACK NO. 37038 PER FED-STD-595, EXCEPT THOSE SURFACES MARKED 'C' WHICH SHALL BE UNPAINTED.
  - 9) MARKING NOTES LOCATION OF TUBE TYPE & SERIAL NO METALCAL
  - 10) MOUNTING INSERTS TO BE FLUSH OR BELOW MOUNTING FACE .010 MAX. AND MUST BE AT ELECTRICAL GROUND WITH RESPECT TO MOUNTING FACE.

RM-132-1	MATERIAL		RM 132 OUTLINE DRAWING		DATE PRINTED
					SEE ASSEMBLY
DR: Shields	4-2-76	SCALE:	FULL		<b>EEV, Inc;</b> <b>Relmag Division</b> 1240 Highway 1 Watsonville, California 95076
CHK: [initials]	4-2-76				
APP: [initials]	4-2-76				
B	WAS	$\pm 1/2$ WAS $\pm 1/8$ / SEE WAS-750			
A	WAS	2.742 MAX WAS $\pm .010$			