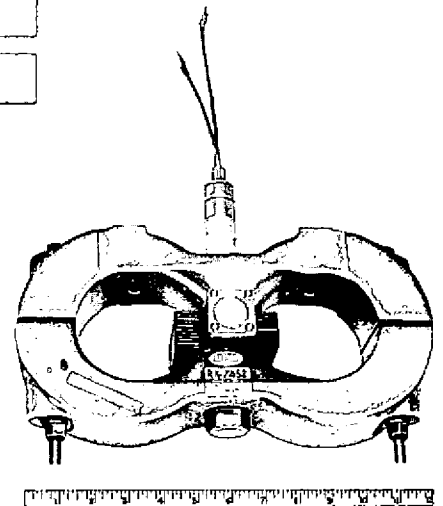


The technical information on this data sheet is of a proprietary nature and is furnished as a customer service for private use only.

RK 7452**PRELIMINARY****DATA SHEET***Excellence in Electronics*

GENERAL DESCRIPTION

The RK7452 is a fixed frequency, pulsed-type oscillator operating within the frequency limits of 15,840 - 16,160 megacycles, with a minimum peak power output of 70 kilowatts. It is an integral magnet, waveguide output type tube requiring forced air cooling and is designed for coupling to standard RG 91 U waveguide (0.702 x 0.391).

**RK 7452**

Mechanical Data

Mounting Position	Cathode Vertical
Net Weight	25 Lbs.
Cooling	Forced Air
Output Pressurization	Required (25 psia Min.)

Electrical Data

Heater Voltage - Preheat/180 sec	4.8 Volts
Heater Current at 4.8 Volts	10.8 - 13.2 Amperes
Voltage Rise Time	.09 to .14 usec
R. F. Bandwidth	2.0/tpc Max.
Maximum V.S.W.R.	1.5

Typical Operation

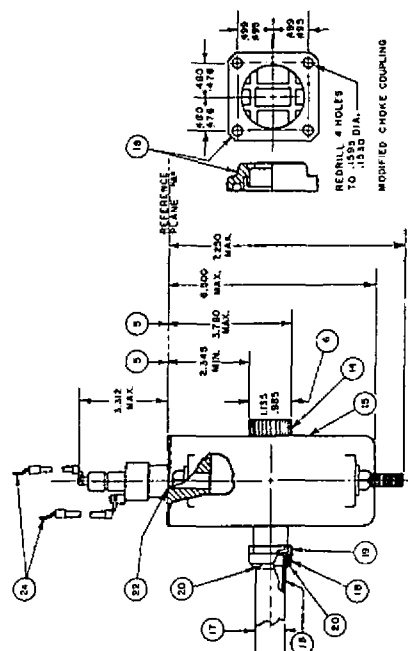
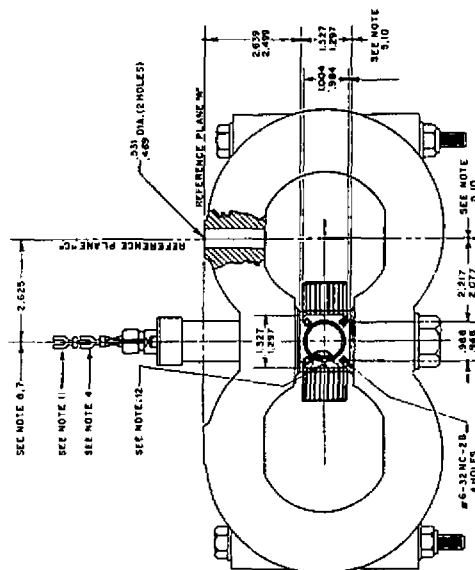
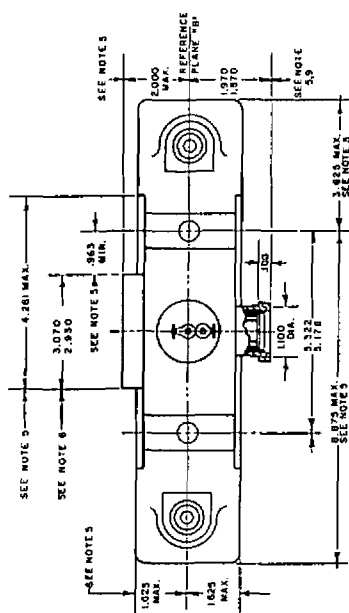
Pulse Duration	0.25 usec
Duty Cycle	.00215
Average Anode Current	26 Milliampere
Average Power Output	150 Watts (Min.)
Peak Anode Voltage	24 KV

Reliable operation and maximum magnetron life can be achieved only if the overall radar transmitter is designed with the magnetron characteristics clearly in mind. This preliminary Data Sheet is intended as an introduction to this type magnetron and not as an absolute guide to users. Inquiries on this magnetron and its application should be directed to the Applications Engineering Department at Raytheon Company, Waltham, Massachusetts.

The specifications for this tube have not been finalized. The tube is being manufactured in limited quantities and is available for engineering analysis purposes only. This engineering information and/or delivery of sample tubes do not imply availability of tubes with the same electrical and/or mechanical characteristics. Changes in ratings and/or dimensions may be made at our discretion as deemed advisable by manufacturing experience or other considerations. For current information concerning this tube contact the nearest Microwave and Power Tube Regional Sales Representative.



OUTLINE DRAWING
ELECTRON TUBE
RK 7452



FOR NUMBERS IN BALLOONS REFER TO NOTES

NOTES

1. REFERENCE PLANE "A" IS DEFINED AS A PLANE PASSING ALONG THE FINISHED SURFACE OF THE MAGNET AS SHOWN.
2. REFERENCE PLANE "B" IS DEFINED AS A PLANE, PASSING THROUGH THE CENTERS OF THE MOUNTING HOLES AND PERPENDICULAR TO REFERENCE PLANE "A".
3. REFERENCE PLANE "C" IS DEFINED AS A PLANE PASSING THROUGH THE CENTER OF THE MOUNTING HOLES, AND ACTUALLY PERPENDICULAR TO REFERENCE PLANES "A" AND "B".
4. BROWN PAINT TO IDENTIFY COMMON CATHODE CONNECTION. (OUTER TERMINAL).
5. TOLERANCE INCLUDES ANGULAR AS WELL AS LATERAL DEVIATION. THESE DIMENSIONS APPLY TO RADATOR SIZE ONLY.
6. PARTS ON THIS CENTERLINE MAY VARY BY $1/8"$.
7. THIS DIMENSION REFERS TO THE CENTERLINE OF TUBE.
8. SURFACE OF OUTPUT FLANGE TO BE PARALLEL TO REFERENCE PLANE "B" WITHIN .005".
9. TAPPED HOLES MUST BE PARALLEL TO REFERENCE PLANES WITHIN .005".
10. HEATER CONNECTION.
11. TEMPERATURE AT WHICH TEMPERATURE SHALL BE MEASURED ON ANODE BODY.
12. MINIMUM DISTANCE FROM HIGH VOLTAGE TO GROUND SHOULD BE 1.50 INCHES AIR AT ATMOSPHERIC PRESSURE.
13. ANODE COOLING FAN INLET DUCT FOR SUPPLYING AIR TO THE TUBE COOLING SYSTEM MUST BE DESIGNED TO INSURE DELIVERY OF AIR TO ENTIRE GAS-ROTOR SECTION OF THE EMIT WITH MINIMUM SIDE LEAKAGE.
14. MAGNET FERROMAGNETIC MATERIALS MUST NOT BE PERMITTED AT ANY TIME GREATER THAN TWO INCHES FROM THE MAGNET. DESIGN OF THE ENDS WHERE THE CLEARANCE MAY BE 3 INCHES.
15. ALL PARTS MUST BE PERMITTED AT ANYTIME GREATER THAN TWO INCHES FROM TURN ARREST DETECT.
16. WAVELENGTH .822 ± .111 IDT.
17. LONG AXIS OF WAVEGUIDE.
18. WAVEGUIDES CHOOSE COMPLING PLANCE, MODIFIED UC-541/D. (SEE DETAIL FIG. 3.)
19. ALL JOINTS OF WAVEGUIDE OUTPUT TO BE HYDRAEMATICALLY TIGHT. CASKETS WITH "O" RING ANASTH-18 AT THEIR SPHERICAL JOINT.
20. FOUR #6-32 SCREWS REQUIRED TO ATTACH WAVEGUIDE CHOKE TO TUBE.
21. HEATER CONNECTION (CENTER TERMINAL). HIGH VOLTAGE ELECTRICITY TO BE APPLIED TO THE END OF THE TUBE.
22. MOUNTING HOLES, ENTERING TUBE, AFTER ATTACHMENT OF TUBE TO BE EFFECTED FROM THESE HOLES. SEE NOTE 12.
23. THE ANODE MUST BE GROUNDED EFFECTIVELY SUCH AS THROUGH THE MOUNTING BOLTS.
24. FLEXIBLE LEADS CONNECTION TERMINALS FIT #10 SCREW.