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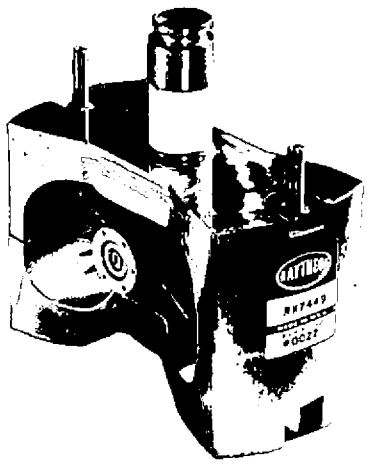
RK 7449 PRELIMINARY DATA SHEET

RAYTHEON *Excellence in Electronics*



RK 7449

GENERAL DESCRIPTION

The RK7449 magnetron is a rugged, pulsed-type oscillator operating in the frequency region of 23,700 to 24,300 megacycles, with a minimum power output of 45.0 kilowatts. It is an integral magnet, unipotential cathode, waveguide output type tube requiring forced air cooling.

The RK7449 is designed to operate while being subjected to vibration frequencies of 20 to 2000 C.P.S. at a constant acceleration of 30.0 G's, (below 54 C.P.S. the maximum total excursion is 0.2 inches). It will also withstand 50 G's shock acceleration on three mutually perpendicular axes.

Mechanical Data

Mounting Position	Any
Net Weight	7.5 Lbs.
Cooling	Forced Air
Pressurization (Input)	Required below 10 P.S.I.A.
Pressurization (Output)	Required (40 P.S.I.A. Min.)

Electrical Data

Heater Voltage-Preheat/90 sec	5.0 Volts
Heater Current at 5.0 volts	2.6-3.2 Amps
Voltage Rise Time	0.02 usec Min.
R.F. Bandwidth	1.96/tpc
Maximum V.S.W.R.	1.5

Typical Operation

Pulse Duration	0.02 to 0.09 usec
Duty Cycle	0.0003
Peak Anode Current	15 Amps
Peak Power Output	55 kilowatts
Peak Anode Voltage	14 kilovolts

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

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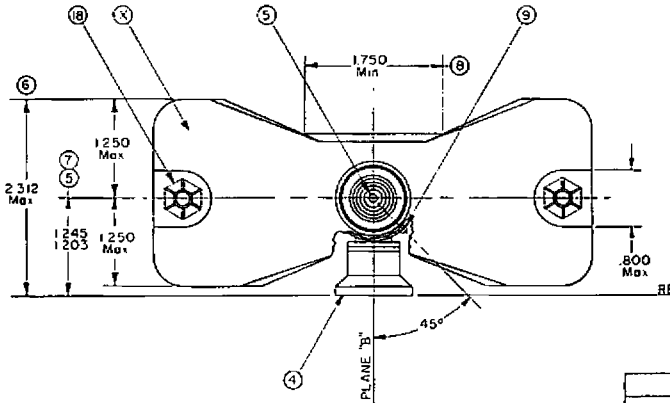
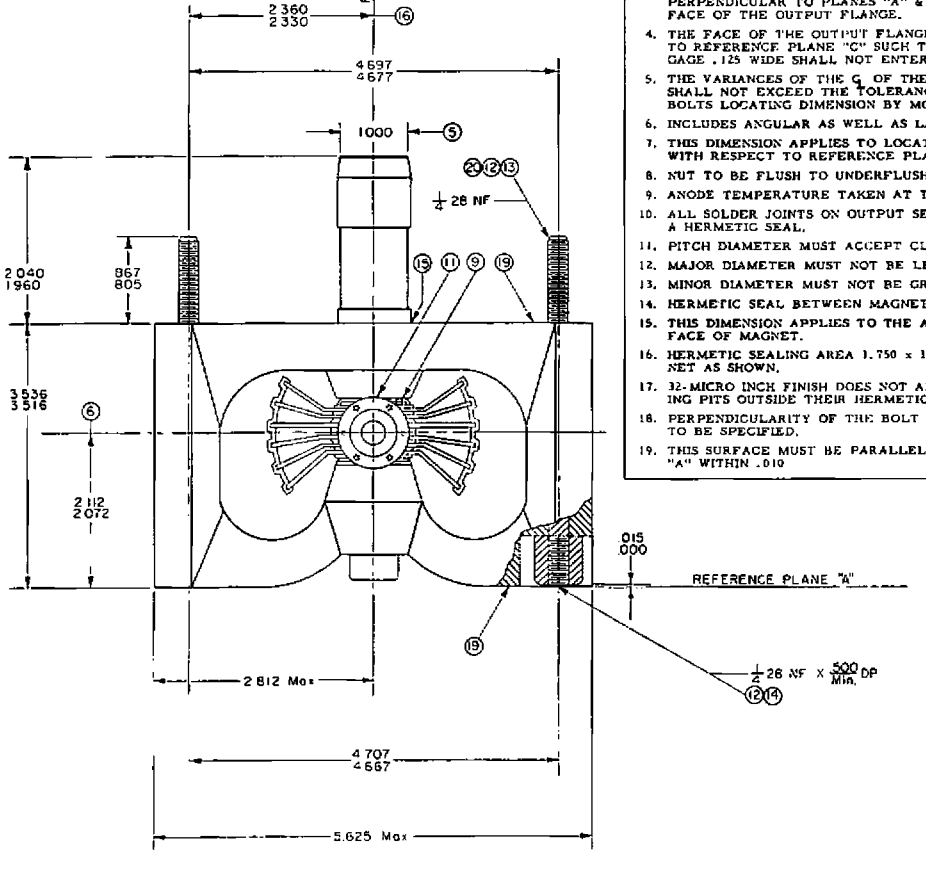
preliminary data sheet



RK7449 ELECTRON TUBE OUTLINE DRAWING



NOTES

1. REFERENCE PLANE "A" IS DEFINED AS A PLANE PASSING ALONG THE SURFACE OF THE MAGNET AS SHOWN.
2. REFERENCE PLANE "B" IS DEFINED AS A PLANE PERPENDICULAR TO PLANE "A".
3. REFERENCE PLANE "C" IS DEFINED AS A PLANE MUTUALLY PERPENDICULAR TO PLANES "A" & "B" PASSING ALONG THE FACE OF THE OUTPUT FLANGE.
4. THE FACE OF THE OUTPUT FLANGE MUST BE PARALLEL TO REFERENCE PLANE "C" SUCH THAT A .010 THICKNESS GAGE . 125 WIDE SHALL NOT ENTER.
5. THE VARIANCES OF THE ℄ OF THE CATHODE BUSHING SHALL NOT EXCEED THE TOLERANCES OF THE MAGNET BOLTS LOCATING DIMENSION BY MORE THAN .0325
6. INCLUDES ANGULAR AS WELL AS LATERAL DEVIATION.
7. THIS DIMENSION APPLIES TO LOCATION OF MOUNTING BOLTS WITH RESPECT TO REFERENCE PLANE "C".
8. NUT TO BE FLUSH TO UNDERFLUSH WITH SURFACE "X".
9. ANODE TEMPERATURE TAKEN AT THIS POINT.
10. ALL SOLDER JOINTS ON OUTPUT SECTION SHALL PROVIDE A HERMETIC SEAL.
11. PITCH DIAMETER MUST ACCEPT CLASS 2 GO GAGE ONLY.
12. MAJOR DIAMETER MUST NOT BE LESS THAN . 240
13. MINOR DIAMETER MUST NOT BE GREATER THAN . 221
14. HERMETIC SEAL BETWEEN MAGNET AND CATHODE POLE.
15. THIS DIMENSION APPLIES TO THE AXIS OF CATHODE AT SURFACE OF MAGNET.
16. HERMETIC SEALING AREA 1.750 x 1.750 ON FACE OF MAGNET AS SHOWN.
17. 32-MICRO INCH FINISH DOES NOT APPLY TO MINUTE CASTING PITS OUTSIDE THEIR HERMETIC SEAL AREA.
18. PERPENDICULARITY OF THE BOLT TO THE MAGNET SURFACE TO BE SPECIFIED.
19. THIS SURFACE MUST BE PARALLEL TO REFERENCE PLANE "A" WITHIN .010