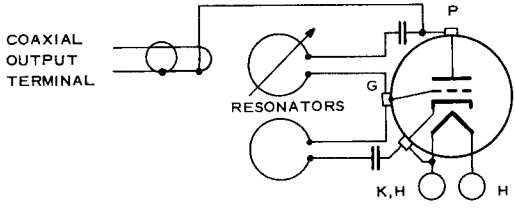
TUNG-SOL

TRIODE OSCILLATOR

THE 7533 IS AN INTEGRAL-CAVITY OSCILLATOR ASSEMBLY DESIGNED FOR TRANSMITTING SERVICE IN BATTERY POWERED RADIOSONDES OPERATING NEAR 1680 MC/S. IT INCORPORATES A PENCIL TRIODE WITH UNUSUALLY LOW HEATER POWER BATTERY DRAIN, RELATIVELY HIGH PLATE CIRCUIT EFFICIENCY, LOW FREQUENCY DRIFT AND A WEIGHT OF ONLY 0.8 OUNCES. THE OUTPUT FREQUENCY CAN BE ADJUSTED BETWEEN 1660 AND 1700 MC/S BY MEANS OF 2 ADJUSTMENT SCREWS POSITIONED IN THE PLATE RESONATOR. THE CATHODE RESONATOR IS PRE-TUNED FOR UNIFORM POWER OUTPUT OVER THE TUNEABLE FREQUENCY RANGE. THE COAXIAL TERMINAL IS LOOP COUPLED TO THE PLATE RESONATOR.

MECHANICAL DATA

TERMINAL CONNECTIONS



H: HEATER
K: CATHODE
G: GRID
P: PLATE

PHYSICAL DIMENSIONS — SEE OUTLINE AND NOTES

ELECTRICAL DATA

HEATER CHARACTERISTICS AND RATINGS

ABSOLUTE MAXIMUM SYSTEM - SEE EIA STANDARD RS-239

AVERAGE CHARACTERISTICS	6.0	VOLTS	160	MA.
LIMITS OF APPLIED VOLTAGE			5.2 TO 6.6	VOLTS

MAXIMUM RATINGS

ABSOLUTE MAXIMUM SYSTEM - SEE EIA STANDARD RS-239

FOR ALTITUDES UP TO 100,000 FEET

DC PLATE-TO-GRID VOLTAGE	130	VOLTS
PLATE DISSIPATION	3.6	WATTS
PLATE INPUT	4	WATTS
DC PLATE CURRENT	34	MA.
DC GRID CURRENT	8	MA.
AMBIENT TEMPERATURE	−55 TO +75	°C

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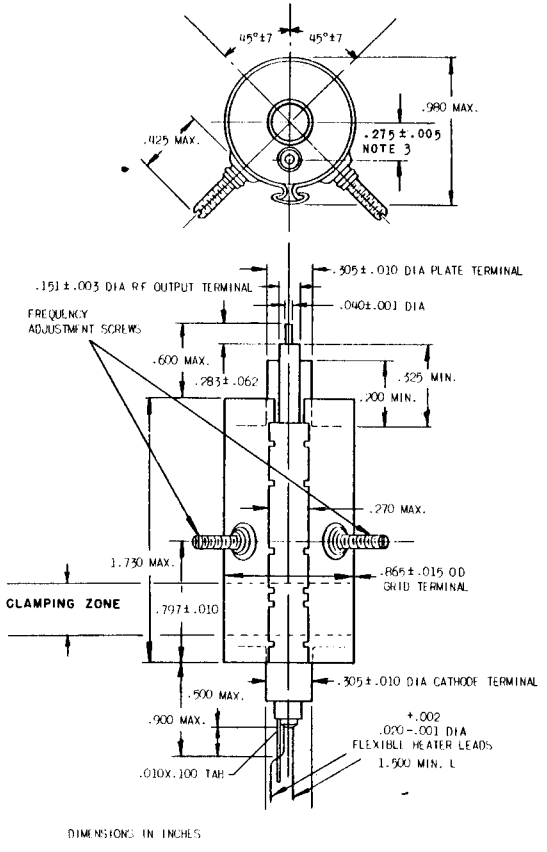
OUTLINE



DIMENSIONS IN INCHES

NOTES:

1. THE AXES OF THE INNER AND OUTER CONDUCTORS OF THE COAXIAL OUTPUT TERMINAL COINCIDE WITHIN 0.010".

2. THE END OF THE INSULATOR IN THE COAXIAL OUTPUT TERMINAL ALIGNS WITH THE EDGE OF THE OUTER CONDUCTOR (0.151" ±0.003" DIAMETER) WITHIN 0.005"

3. DISTANCE BETWEEN CENTERLINE OF PLATE TERMINAL AND CENTER LINE OF INNER CONDUCTOR (0.040" ±0.001" DIAMETER).

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OPERATION AS CLASS C OSCILLATOR

OPERATING FREQUENCY	1680	MC/S
CHARACTERISTICS IMPEDANCE OF COAXIAL OUTPUT TERMINAL (APPROX.)	50	Ω
DC PLATE SUPPLY VOLTAGE	117	VOLTS
GRID RESISTOR - ADJUSTED FOR STATED PLATE CURRENT AVG. VALUE	1500	Ω
DC PLATE CURRENT	27	MA.
DC GRID CURRENT	4.5	MA.
USEFUL POWER OUTPUT (APPROX.)	575	MW.

CHARACTERISTICS RANGE VALUES FOR EQUIPMENT DESIGN

	MIN.	MAX.	
TUNING RANGE	1660	1700	MC/S
LOAD ADJUSTED FOR VOLTAGE STANDING WAVE RATIO		1.1	
HEATER CURRENT AT Ef = 5.2 V.	135	157	MA.
GRID RESISTOR - SEE NOTE	1300	2400	Ω
USEFUL POWER OUTPUT AT Ef = 5.2 V., Ebb = 95 V.	250	------	MW.

SPECIAL TESTS AND PERFORMANCE DATA

CONTROLLED ON A SAMPLING BASIS

LOW-PRESSURE VOLTAGE BREAKDOWN TEST

HIGH-FREQUENCY VIBRATION TEST

MILITARY SPECIFICATIONS SHORTS AND CONTINUITY TEST PERFORMED ON ALL DEVICES

TEMPERATURE-FREQUENCY PERFORMANCE

5 HOUR RADIOSONDE LIFE PERFORMANCE TEST

NOTE:

ADJUSTED TO GIVE PLATE CURRENT AS CLOSE AS POSSIBLE, BUT NOT EXCEEDING 33 MA. OPERATE WITH Ef = 6.6 V., Ebb = 117 V., PLATE LOAD RESISTANCE OF 50 Ω, FREQUENCY ADJUSTED TO 1660 +3, −1 MC/S.