ITT ELECTRON TUBE DIVISION
CLIFTON, NEW JERSEY
INTERNATIONAL TELEPHONE AND TELEGRAPH CORPORATION

F-2511 BACKWARD WAVE OSCILLATOR

TENTATIVE

GENERAL

The F-2511 is a voltage-tunable, wide-band oscillator with a minimum output power of 25 milliwatts over its rated operating frequency range. This permanent magnet focused, highly stable device finds applications as a swept signal source in signal generators; master oscillator for frequency diversity transmitters; or typically as a local oscillator in radar or ECM receivers. The tube features a unifilar helix contained in a rugged envelope of simple mechanical design thus providing a highly reliable, compact unit. No cooling is required when the environment is below +60°C ambient temperature.

ELECTRICAL

	TYPICAL	ABSOLUTE	UNITS
Frequency	8.0 - 12.4	Note 1	Gcs
Power Output	25 - 130	25 min.	mw
Power Output Variation	8	9 max.	db
Fine Grain Variation, Note 2	±1.5	±2 max.	db 440 mc
VSWR	2.5:1	3:1 max.	—
Output Impedance	50	50	Ohms
Heater Voltage	6.3	6.0 min. 6.6 max.	Volts
Heater Current	.96	1.2 max.	Amps
Anode Voltage (with respect to Cathode)	150	250 max.	Volts
Anode Current	0.5	1.0 max.	Ma
Cathode Current	10.0	15 max.	Ma
*Helix Voltage	Zero	Zero	Volts
Helix Current	4.0	6.0 max.	Ma
*Cathode Voltage (with respect to Helix)	-550 to -2400	-450 to -2500	Volts

	TYPICAL	ABSOLUTE	UNITS
*Grid Voltage for no Oscillation (RF Cutoff) (with respect to Cathode)	-15	-30 max.	Volts
*Collector Voltage (with respect to Helix)	+100	+150 max.	Volts
Capacitance, Cathode to all Electrodes	40	50 max.	$\mu\mu$fd.
Capacitance, Grid to all Electrodes	29	45 max.	$\mu\mu$fd.
Capacitance, Helix to all other Electrodes and Capsule	80	150 max.	$\mu\mu$fd.
Spurious Output below Signal	50	40 min.	db

*The above data shows tube operation with helix at ground potential (Zero Volts). If desired as an alternate, any one of the asterisked elements may be operated at ground potential, provided the other electrode potentials are set at the appropriate relative levels.

NOTE 1 The F-2511 will operate over the frequency range of 7.92 to 12.524 Gcs. with a 3 db reduction in the rated minimum output power.

NOTE 2 This value is determined by selecting the 440 mc region of the frequency range which has the greatest differences in power output. The difference between these power levels is divided by two and the plus or minus sign is affixed to denote the difference from an average power level.

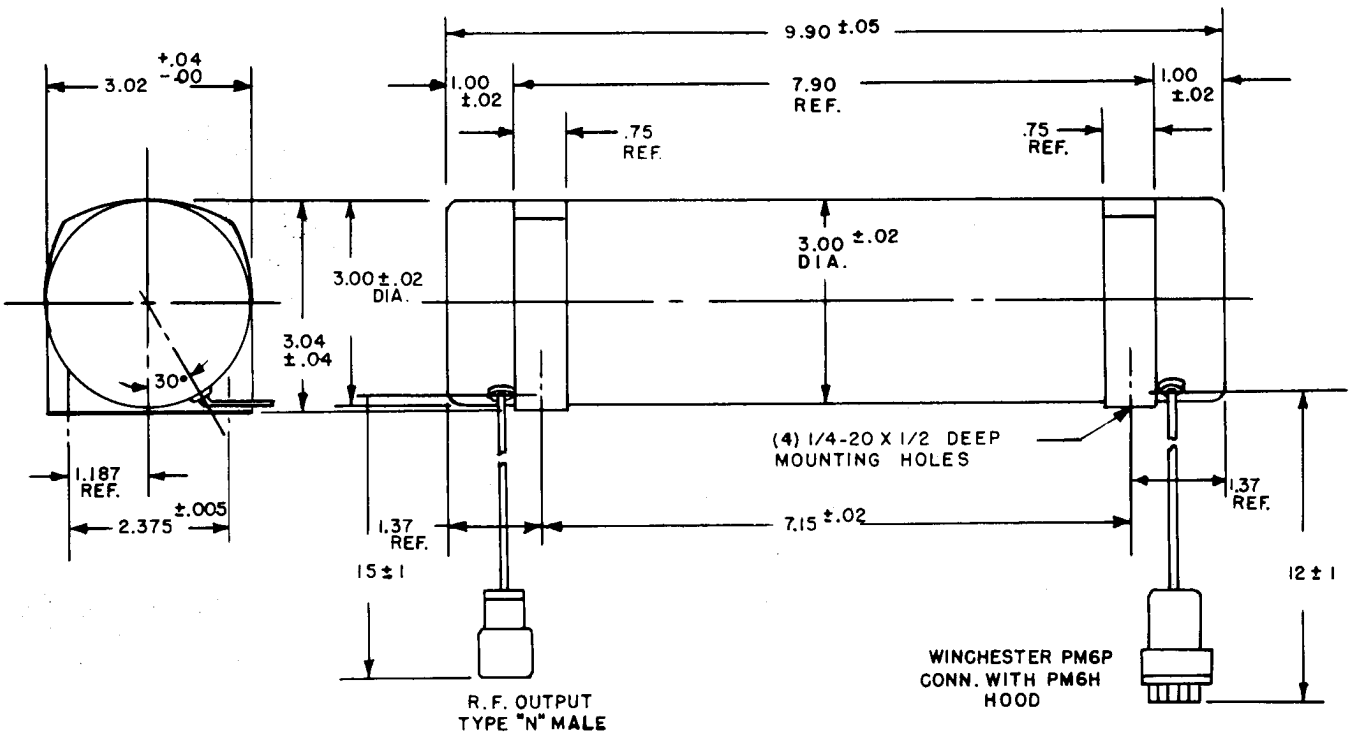
MECHANICAL

Package Length	9.9	9.95 max.	Inches
Package Diameter	3.0	3.02 max.	Inches
Package Weight	9 lbs. -14 oz.	10 max.	Pounds
Power Cable Length (to end of Winchester PM6P Connector)	12	11 min./13 max.	Inches
Output Cable Length (to end of Type "N" Connector)	15	14 min./16 max.	Inches

Additional information for specific applications can be obtained from the

Electron Tube Applications Section
ITT Electron Tube Division
Post Office Box 104
Clifton, New Jersey

F-2511



A-COLLECTOR
B-HELIX
C-HEATER
D-HEATER, CATHODE
E-ANODE
F-GRID (FOCUS)