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

F-2518 BACKWARD WAVE OSCILLATOR

TENTATIVE

GENERAL

The F-2518 is a voltage-tunable, wide-band oscillator with a minimum output power of 50 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 bifilar 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	6.6 – 8.7	Note 1	Gcs
Power Output	50 – 150	50 min.	mw
Power Output Variation	5	6 max.	db
Fine Grain Variation, Note 2	±2.0	±2.5 max.	db/210 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	.97	1.2 max.	Amps
Anode Voltage (with respect to Cathode)	225	250 max.	Volts
Anode Current	0.5	1.0 max.	Ma
Cathode Current	8.0	12 max.	Ma
Helix Voltage (with respect to Cathode)	460 to 1025	400 to 1200	Volts

	TYPICAL	ABSOLUTE	UNITS
Helix Current	3.0	5.0 max.	Ma
Cathode Voltage	Zero (Ground)	Zero (Ground)	Volts
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	33	45 max.	$\mu\mu$fd.
Capacitance, Helix to all other Electrodes and Capsule	101	200 max.	$\mu\mu$fd.
Spurious Output below Signal	50	40 min.	db

NOTE 1 The F-2518 will operate over the frequency range of 6.534 to 8.787 Gcs. with a 3 db reduction in the rated minimum output power.

NOTE 2 This value is determined by selecting the 210 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.

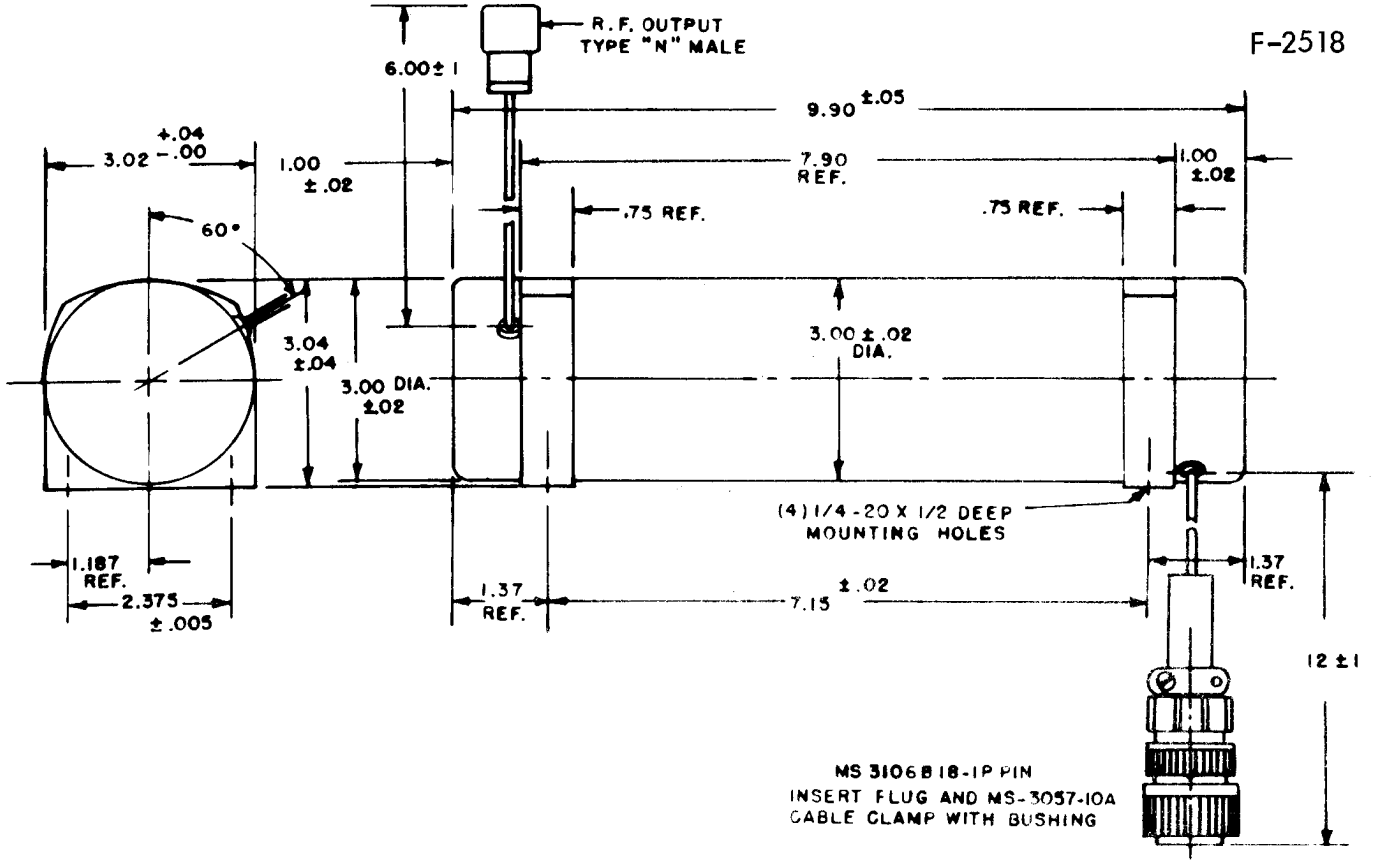
MECHANICAL

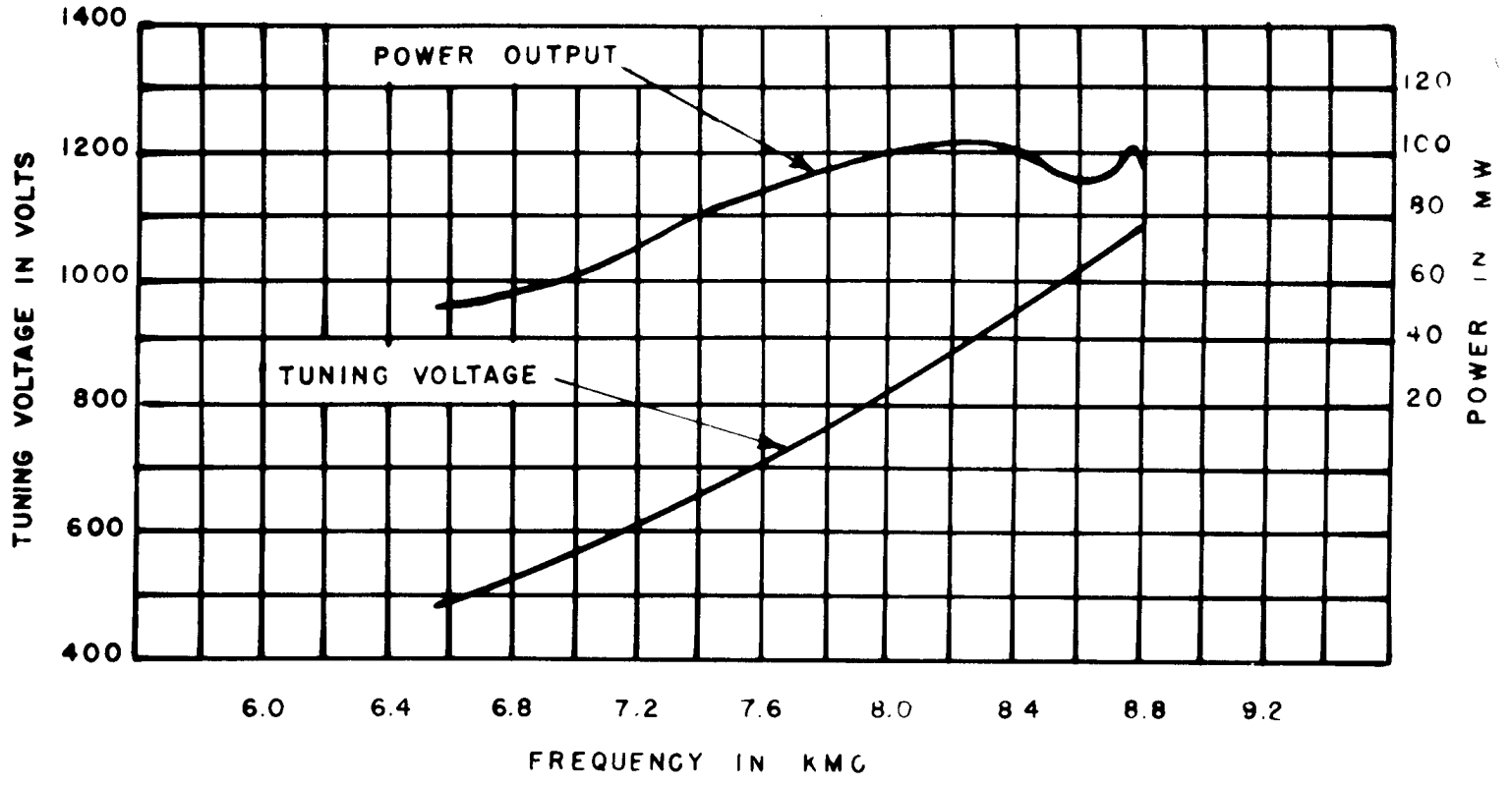
Package Length	9.90	9.95 max.	Inches
Package Diameter	3.00	3.02 max.	Inches
Package Weight	9 lbs.-14 oz.	10 max.	Pounds
Power Cable Length (to end of MS3106B18-IP Plug)	12	11 min/13 max.	Inches
Output Cable Length (to end of Type "N" Connector)	6	5 min/7 max.	Inches

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-2518


R. F. OUTPUT
TYPE "N" MALE
6.00 ± 1
9.90 ±.05
3.02 +.04 −.00
1.00 ±.02
7.90 REF.
1.00 ±.02
.75 REF.
.75 REF.
60°
3.04 ±.04
3.00 DIA. ±.02
3.00 ±.02 DIA.
(4) 1/4-20 X 1/2 DEEP MOUNTING HOLES
1.187 REF.
2.375 ±.005
1.37 REF.
7.15 ±.02
1.37 REF.
12 ±1
MS 3106B 18-1P PIN
INSERT PLUG AND MS-3057-10A
CABLE CLAMP WITH BUSHING


POWER OUTPUT
TUNING VOLTAGE
TUNING VOLTAGE IN VOLTS
1400
1200
1000
800
600
400
120
100
80
60
40
20
POWER IN MW
6.0
6.4
6.8
7.2
7.6
8.0
8.4
8.8
9.2
FREQUENCY IN KMC