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

F-2544
Backward Wave
Oscillator

TENTATIVE

GENERAL:

The F-2544 is a voltage-tunable, wide-band oscillator with a minimum output power of 10 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	4.0 - 8.0	-	Gcs
Power Output	15 - 200	10 min.	mw
Power Output Variation	10	12 max.	db
Fine Gain Variation, Note 1	±2.0	±2.5 max.	db/400 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	0.3	1.0 max.	Ma
Cathode Current	12	15 max.	Ma

	Typical	Absolute	Units
Helix Voltage	Zero	Zero	Volts
Helix Current	3.5	6.0 max.	Ma
Cathode Voltage (with respect to helix)	-215 to -1700	-180 to -2000	Volts
Grid Voltage for no Oscillation (RF Cutoff) (with respect to cathode)	-13	-30 max.	Volts
Collector Voltage	Zero	Zero	Volts
Capacitance, Cathode to all Electrodes	18	25 max.	μfd.
Capacitance, Cathode to all Electrodes	15	25 max.	μfd.
Capacitance, Helix to all other Electrodes & Capsule	170	200 max.	μfd.
Spurious Output below Signal	50	40 min.	db

Note 1. This value is determined by selecting the 400 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.

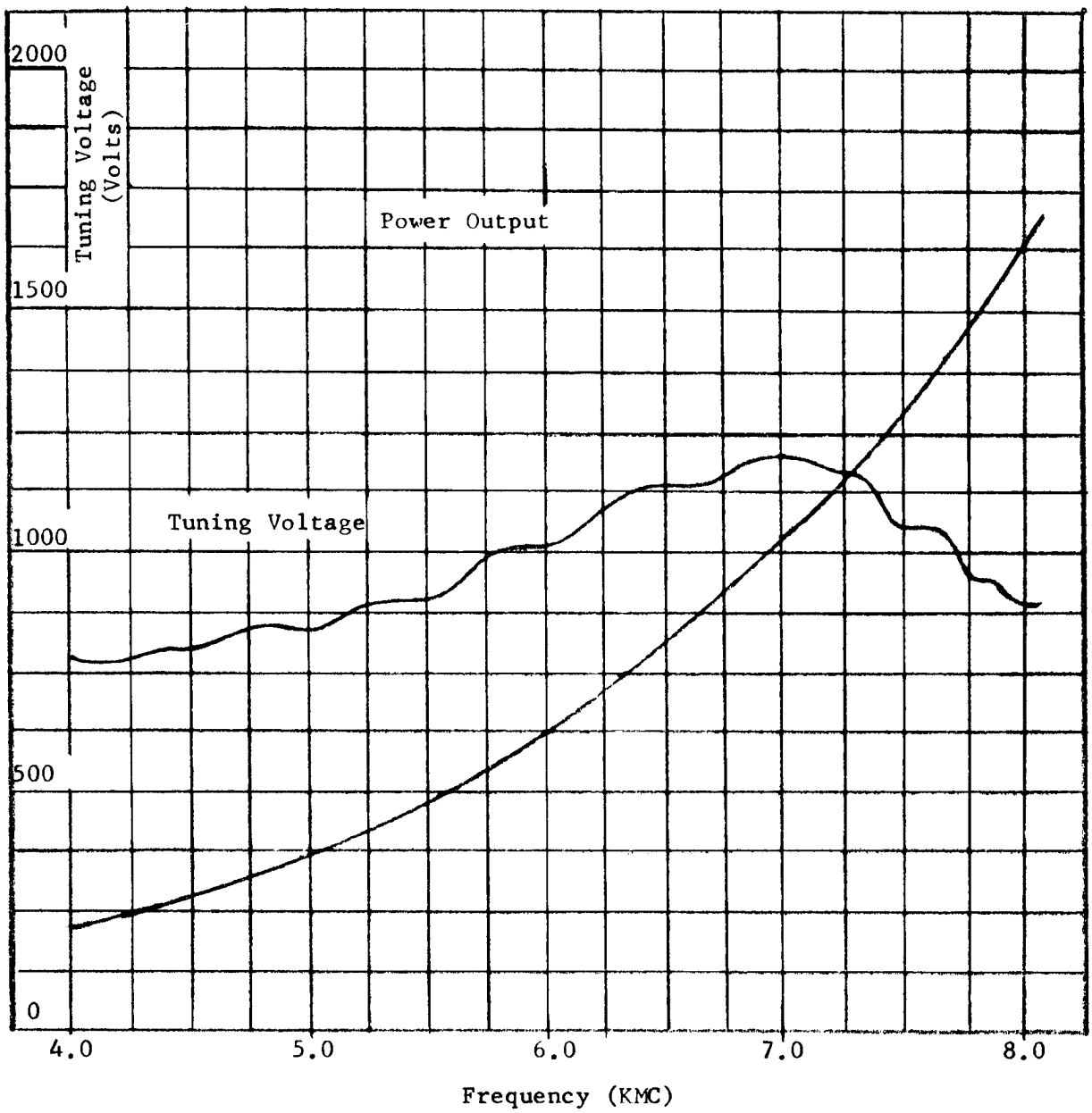
MECHANICAL:

Package Length	7.06	7.08 max.	Inches
Package Diameter	2.50	2.52 max.	Inches
Package Weight	3 lbs., 6 oz.	3.5 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)	10 1/2	9 1/2 min./ 11 1/2 max.	Inches

Typical

Tuning Curve and Power Output

BWO Type F-2544



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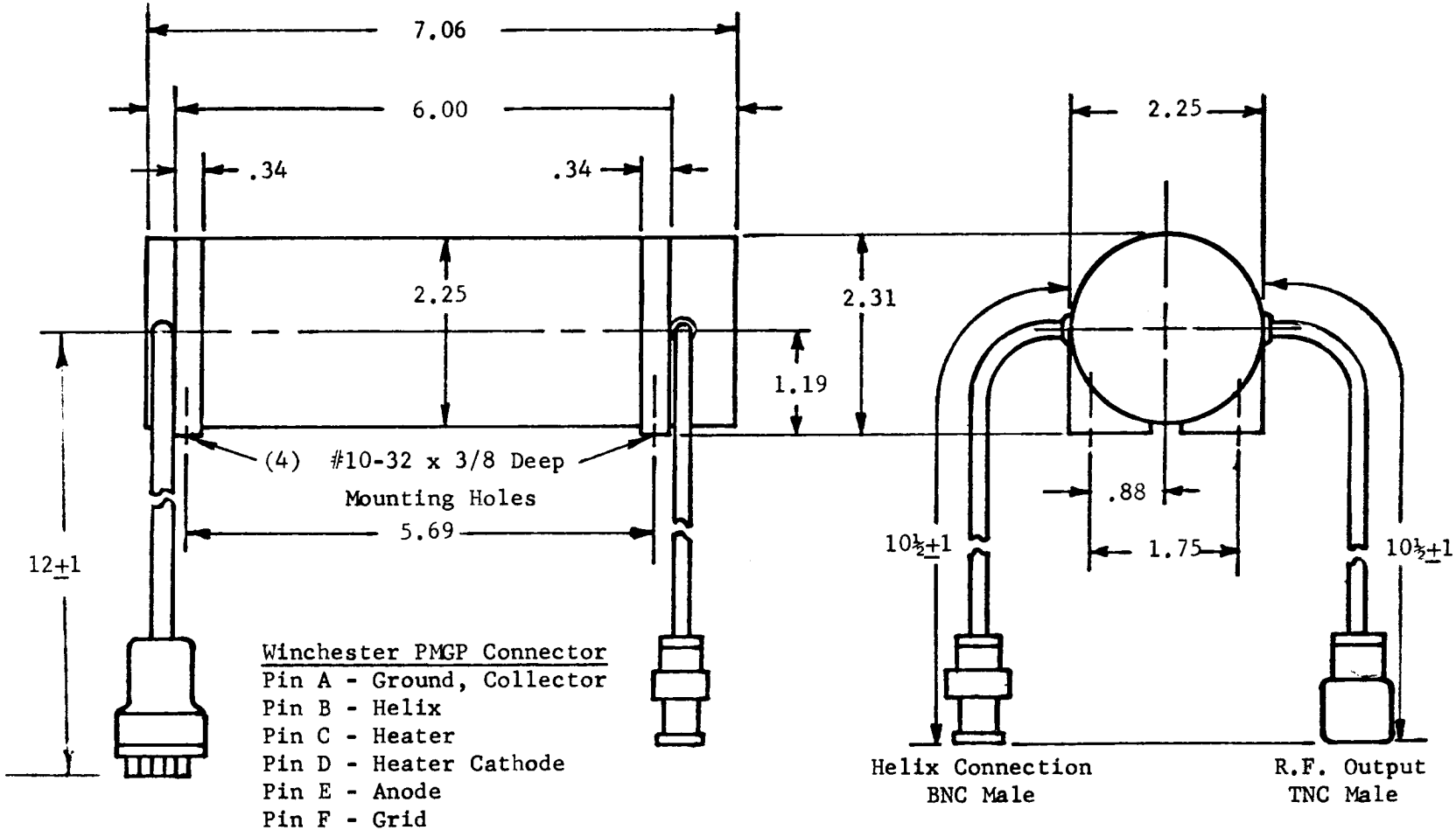

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Permanent-Magnet Backward-Wave Oscillator

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