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

F-2063 TRAVELING WAVE TUBE

T E N T A T I V E

GENERAL DESCRIPTION:

The F-2063 is a 1000 watt pulse traveling wave amplifier tube having 33 db gain and designed primarily for use in the 2500 to 4000 mc frequency range. It is constructed in a rugged metal envelope with a helix type slow wave structure. The integral matching circuit is in 50 ohm coaxial line and is provided with type "TNC" connectors. The tube is focused by a periodic permanent magnet which is integral with the tube. A convergent beam gun and oxide impregnated cathode are used. Duty cycles up to .01 and pulse widths up to 10 microseconds can be used. A control grid suitable for grid pulsing is provided.

ELECTRICAL RATINGS, ABSOLUTE VALUES

Heater Voltage	6.3 (±10%)	volts	Maximum Duty Cycle	.01	
Heater Current	3.0	amperes	Maximum Pulse Width (beam)	10	microseconds
Maximum Anode Voltage (Note 1)	8000	volts	Maximum Cathode Current	20	ampere peak
Maximum Helix Current	0.8	ampere peak	Maximum Grid Voltage		
Maximum Collector Voltage	8000	volts	Negative	-100	volts
Maximum Collector Dissipation	120	watts average	Positive (with respect to cathode)	200	volts
Maximum R-F Output Power	30	watts average			

ELECTRICAL INFORMATION

Maximum Frequency (Note 2)	4000	mc	Capacitance		
Minimum Frequency (Note 2)	2500	mc	Control Grid to All Other Elements	20	uufd
Minimum Cold Transmission Loss	50	db			

MECHANICAL INFORMATION

Type of Cathode	Oxide Impregnated Unipotential		Weight	10 pounds	Maximum
Base	(See Outline)		R-F Connections	Type "TNC"	
Type of Envelope		Metal	Cooling Data	25 cfm of air	
Mounting Position		Any			

TYPICAL OPERATION AS POWER AMPLIFIER

Frequency	2500 to 4000	mc	Power Output (minimum)	1000	watts peak
Anode Voltage (Note 1)	7500	volts	Gain	33	db
Cathode Current	1.5	amperes peak	Duty	.01	
Collector Voltage (tied to shell)	7500	volts	Pulse Width	5	microseconds
Collector Current	1.0	amperes peak	Grid Bias (for cut-off)	-30	volts
			Grid Voltage during Pulse	175	volts

NOTE 1: All voltages shown are with respect to cathode. The shell is normally operated at ground potential and the anode connection is made to the shell of the package.

NOTE 2: Useful gain and power output exists below 2500 mc and above 4000 mc and can be utilized by adjusting anode voltage to optimize the frequency range desired. However, bandwidth cannot be extended both upward and downward simultaneously and maximum gain and power output outside the normal bandwidth will be lower than rated values.

NOTE 3: Heater warm up of two minutes before applying high voltage is recommended.

NOTE 4: High voltage must not be applied in the absence of proper grid bias.

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WAVE TUBE