



MICROWAVE TUBE DIVISION

11105 S. LA CIENEGA BLVD. • LOS ANGELES 9, CALIFORNIA • TELEPHONE: SPRING 6-1515 ORCHARD 0-1515

JOINT ELECTRON DEVICE ENGINEERING COUNCIL

FORMAT FOR THE TWT DATA SHEET

ELECTRON TUBE TYPE: 8111/344H

All ratings are based on the ABSOLUTE system.

The 8111/344H traveling wave tube employing a helix type wave propagating structure is a power amplifier for operation in the 3,350 to 3,650 Mc frequency range. The power output is approximately 1,500 watts with an average gain of 31.8 db and the tube is air cooled. It is designed for pulsed operation with a maximum duty cycle of 0.006. The input and output fittings are designed to mate with TNC type connectors. A permanent magnet provides the magnetic field and is integral with the tube.

ELECTRICAL DATA GENERAL

Units

Heater Voltage ac	6.3 Volts
Heater Current at 6.3 Volts	2.5 to 3.0 Amps
Cathode Pre-Heating Time (before application of beam voltages)	180 Sec.

MECHANICAL DATA GENERAL

Base and Physical Dimensions - See Outline Drawing  
 Mounting Information Any Position  
 Cooling Data 25 cfm of air  
 RF Input and Output Impedance and type connector 50-ohm, TNC  
 Weight - Approximately 13.5 pounds (maximum)

ABSOLUTE RATINGS

Units

Heater Surge Current	10 Amps
Heater-Cathode Voltage	-8000 Volts Max.
Cathode Current	1.5 Amps Max.
Helix Voltage	Ground
Helix Current	0.6 Amps Max.
Collector Voltage	Ground
Collector Dissipation	60 Watts Max.
Collector Temperature	150° C
Input RF Power	2 Watts Max.
Duty Cycle	0.006 Max.
Altitude	10,000 Ft.

TYPICAL OPERATION

	<u>Units</u>
Focusing Field Strength	1350 Gauss
Operating Frequency Range	3.35 to 3.65 kMc
Cathode Current	1.4 Amps
Helix Voltage	Ground
Helix Current	0.5 Amps
Collector Voltage	Ground
Collector Current	0.9 Amps
Pulse Modulation Voltage	-7200 Volts
Gain (Saturated)	31.8 db
Gain (Small Signal)	33.0 db
RF Output (Saturated)	1500 Watts
Gross Small Signal Gain Variation	3 db
Saturated Power Variation	3 db
Input VSWR Cold	2.2:1

TYPICAL OPERATION

	<u>Units</u>
Output VSWR Cold	3:1

NOTE: All voltages are referenced to the cathode.

# 344-H

