Travelling Wave Tube

Type AHT-5-8000

Description

The AHT-5-8000 TWT is rated at 8.0kW minimum peak power output, 50dB gain, 3% duty ratio at pulse lengths up to 30µs, and is characterised by a flat gain response across the operating bandwidth. The compact, rugged tube is of a metal ceramic construction, ppm focused and weighs approximately 5.5kg. Double-stage collector depression is used to increase the efficiency to 25%.

Features

The AHT-5-8000 is a medium power C-Band TWT intended for radar applications. The tube incorporates:

· Low Voltage Beam Switching Grid
· Ring Bar Circuits
· PPM Focusing
· 2-stage Depressed Collector Operation
· Forced Air Cooling
· Rugged Construction

Specification

Frequency Range	5.2 to 5.5 GHz
Output Power	8.0 kW Peak (min)
Duty Ratio	3.0 %
Gain	50 dB
Load VSWR	1.5:1
Source VSWR	1.5:1
Gain Flatness	0.6 dB
Harmonic output	2nd: -25dBc
	3rd & 4th: -35dBc
Heater Voltage	6.3V
Heater Power	30W

Phase Sensitivity

Cathode	0.5 º/V max
Grid	4.5 º/V max
AM/PM	8 º/dB max

Electrode Voltages WRT Cathode (Typical)

Grid Bias	-250 V
Grid Pulse	250 V
Slow Wave Structure	15.0 kV
Collector 1	12.0 kV
Collector 2	9.75 kV

Electrode Pulse Currents (Typical)

Grid	20 mA
Slow Wave Structure	0.5 A
Cathode	3.0 A
Collector 1 (with RF)	1.5 A
Collector 2 (with RF)	1.0 A

Physical

Coolant	Forced Air
Flow	250 m^3/hr (min)
Input Connector	SMA
Output Connector	WR159 Waveguide (or to suit customer)
Overall Dimensions (approx)	490mm x 110mm x 105mm
Weight (approx)	5.5kg

Environment

Temperature Range	Operating	-15ºC to +55ºC
	Storage	-40ºC to +85ºC
Altitude		4000m max
Humidity		95% RH
Vibration		3g rms random 10 to 1000Hz

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