

MA2849B MPD Magnetron Product Information

The MA2849B is a 1.3 kW 9.345 GHz "positive pulse" magnetron for use in OEM airborne radars. It is designed to work up to 55,000 feet in altitude and between -55 °C and +85 °C. The MA2849B is tested to work in waveguide/antenna systems with a VSWR of 1.5:1 or less. The MA2849B magnetron cross-references to OEM P/N 021-00084-0001 and can be used in OEM airborne radars.

Typical Operating Conditions

Parameter	Value
Heater Voltage	12.6 Vdc
Positive Pulse Anode Voltage	2.0 kV
Peak Anode Current	2.1 A
Pulse Width	1.0 μSec. to 15.4 μSec.
Duty Cycle	0.002
Output Power (Peak)	1.3 kW

Electrical Specifications

Design Criteria	Limits		Units
	Minimum	Maximum	
Heater Voltage	12.0	13.2	Vdc
Heater Current	0.28	0.38	Adc
Pulse (Positive) Voltage	1.75	2.2	kV
Peak Anode Current	2.0	2.2	A
Frequency	9320	9370	MHz
Pulse Duration	0.05	16.0	μSec.
Output Power (Peak)	1.3	-	kW
Pulling Factor	-	15	MHz
Pushing Factor (2.2A ±10%)	-	1.5	MHz/A
Minor Lobes	6	-	dB
Bandwidth (6 dB)	-	2.5/T _{PC}	MHz
Missing Pulses	-	0.5	%
Thermal Coefficient	0.0	-0.30	MHz/°C
Input Capacitance	-	50	pF
Second Harmonic Output (At Mag Port)	-	+10	dBm
RF Leakage (1.0 inches away)	-	3	mW
Time Jitter (rms)	-	5	nS

End of Life Criteria	Limits		Units
	Minimum	Maximum	
Output Power (Peak)	1.2	-	kW
Missing Pulses	-	1.0	%
Bandwidth (6 dB)	-	3.0/T _{PC}	MHz
Minor Lobes	5.0	-	dB
Frequency	9320	9370	MHz

Mechanical Specifications

Parameter	Value
Net Weight, Max.	11 oz.
Mounting Position	Any
Cooling	Conduction

Absolute Ratings

Parameter	Minimum	Maximum
Heater Surge Current	-	3.0A
Altitude	-	55,000 feet
Mounting Flange Temperature	-	+95°C
Ambient Temperature	-55°C	+85°C
VSWR	-	1.5:1
Heater Warm-up Time	30 seconds	
Input Power (Anode)	15 Watts	
Duty Factor	-	0.003
Peak Anode Current	2.0 A	2.2 A
Pulse Duration	0.05 µSec.	16 µSec.
Time of Steepest Voltage Rise (t_{SRV})	-	25 kV/µSec.
Peak Inverse Anode Voltage	-	1 kV
Peak Power Input	-	12 kW
Heater Voltage (E_f)	12.0 V	13.2 V

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