

MA2824H & MA2824-3H MPD Magnetron Product Information

The MA2824H & MA2824-3H are 10 kW 9.375 GHz "positive pulse" magnetrons for use in OEM airborne radars. They are designed to work up to 55,000 feet in altitude and between -55 °C and +90 °C. The MA2824 is tested to work in waveguide/antenna systems with a VSWR of 1.5:1 or less. They typically operate at 6.0 kilovolts and 6.0 amps peak.

The MA2824H and MA2824-3H are the same electrically and differ mechanically only by the type of high voltage lead used in the design. The MA2824-3H uses a shielded silicone high voltage lead which reduces corona at the higher altitudes (35,000 feet and above), where the MA2824H uses an unshielded silicone insulated high voltage lead with connector. The MA2824H magnetron cross-references to OEM P/N 7007740-2 and the MA2824-3H to OEM P/N 7007740-3. MPDC's MA2876H and MA2876-4H magnetrons cross-reference to OEM P/Ns 7007740-1 and 7007740-4 (see separate discussion).

Electrical Characteristics

Characteristic	Units	Minimum	Maximum
Heater Voltage	VDC	6.0	6.6
Heater Current	ADC	0.5	0.7
Anode Pulse Voltage	kV	5.7	6.3
Anode Pulse Current	A	-	6.4
Frequency	MHz	9,350	9,400
Pulse Duration	µSec.	0.05	3.5
Output Power (Peak)	kW	10.0	12.0
Duty Cycle	-	-	0.001
Pulling Factor (1.5 VSWR)	MHz	-	23
Pushing Figure ($I_B \pm 10\%$)	MHz/A	-	2.5
Anode Capacitance	pF	-	55
Minor Lobes	dB	8	-
Bandwidth (6dB)	MHz	-	$2.5/T_p$
Missing Pulses	%	0	0.25
Voltage Pulse Rise Time	µSec.	0.1	0.2
Thermal Coefficient	MHz/°C	-	-0.250
Frequency Modulation - Pulse to Pulse	MHz	0	0.1
Frequency Modulation - Intrapulse	MHz	0	0.1
Frequency Modulation - Under Vibration	MHz	0	0.2
Leakage Radiation (WR-90 WG 1" Away)	mW	0	5.0

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