

MA2841 MPD Magnetron Product Information

The MA2841 is a 0.85 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 +90 °C. The MA2841 is tested to work in waveguide/antenna systems with a VSWR of 1.5:1 or less.

The MA2841 magnetron cross-references to OEM P/N 3718621-4 and can be used in several different OEM airborne radars, *provided the Q2206 transistor has NOT been upgraded to 3718367-804 (2N6678). That modification in the radar raises the peak anode voltage applied to the magnetron from 1.6 kV to 2.2 kV.* If this modification has been made, use our MA2849 magnetron, (cross-referencing to OEM P/N 3718621-5).

Input Requirements - Table 1

Characteristic	Minimum	Nominal	Maximum	Units
Heater Voltage	11.9	12.6	13.3	VDC
Anode Pulse Current	-	-	2.4	Amps
Duty Factor	-	-	0.3	%

Performance Requirements - Table 2

Characteristic	Minimum	Nominal	Maximum	Units
Heater Current	0.25		0.35	ADC
Anode Pulse Voltage	1.4	-	1.75	kV
Anode Capacitance	-	-	55.0	pF
Peak Output Power	0.85	-	-	kW
Output Frequency	9.305	9.345	9.385	GHz
Pulse Duration	0.50	-	12.0	µSec.
1st Minor Side Lobe Levels	8.0	-	-	dBc
5th Minor Side Lobe Levels	20.0	-	-	dBc
Bad or Missing Pulses	-	-	0.25	%
Frequency Modulation (Pulse to Pulse)	-	-	0.20	MHz
Leakage Radiation	-	-	2.0	mW
Thermal Coefficient of Frequency	-0.25	-	0.0	MHz/°C
Heater Surge Current	-	-	3.0	Amps

Absolute Limits - Table 3

Characteristic	Minimum	Maximum	Units
Heater Input Voltage	11.9	13.3	VDC
Heater Warm-up Time	20.0	-	Seconds
Anode Pulse Voltage	-	1.8	kV
Anode Pulse Current	-	3.0	Amps
Pulse Duration	-	12.0	µSec.
Duty Factor	-	0.3	%
Average Input Power	-	6.0	Watts
Voltage Rate of Rise	-	12.5	kV/µSec.
VSWR	-	1.5	-
Pressure Altitude	-	35,000	feet
Flange Temperature	-55	+90	°C

Life Requirements - Table 4

Characteristic	Minimum	Maximum	Units
Life Duration	500	-	Hours
End of Life Peak Power Output	0.5	-	kW
End of Life First Minor Lobes	5	-	dBc
End of Life Bad or Missing Pulses	-	1.0	%
End of Life Output Frequency	9.30	9.39	GHz

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316 East 9th Street
Owensboro, KY 42303
U.S.A.

800-803-6515 270-68563405 (fax) 270-685-6202

www.mpdcomponents.com