

**MA2849 MPD Magnetron Product Information**

The MA2849 is a 1.3 kW 9.345 GHz "positive pulse" magnetron for use in OEM airborne radars requiring pulse widths up to 12  $\mu$ Seconds. It is designed to work up to 55,000 feet in altitude and between -55 °C and +90 °C. The MA2849 is tested to work in waveguide/antenna systems with a VSWR of 1.5:1 or less.

The MA2849 magnetron cross-references to OEM P/N 3718621-5 and can be used in several different OEM airborne radars, *provided the Q2206 transistor has been upgraded to 3718367-804 (2N6678)*. This 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 NOT been made, use our MA2841 magnetron, (cross-references to OEM P/N 3718621-4).

The MA2849H magnetron corresponds to OEM P/N 3718621-6 and P/N 3718621-7 and can be used in other OEM airborne radars. The main difference between the MA2849 and the MA2849H is that the MA2849 is only guaranteed work up to the 12  $\mu$ Second pulse width, where the MA2849H is guaranteed to meet the requirements at the multiple pulse widths and duties up to and including 18  $\mu$ Second / 0.432% duty. The MA2849 has a wider allowable RF output frequency range of 9.305 - 9.385 GHz, compared with the MA2849H range, which is 9.320 - 9.370 GHz. The MA2849 also has a wider allowable peak anode voltage range from 1.6 to 2.3 kV, compared with the MA2849H range of 1.8 to 2.2 kV.

**Input Requirements - Table 1**

Characteristic	Minimum	Nominal	Maximum	Units
Heater Voltage	11.9	12.6	13.3	VDC
Anode Pulse Current	2.1	2.2	2.3	Amps
MA2849 Duty Factor	-	-	0.3	%

**Performance Requirements - Table 2**

Characteristic	Minimum	Nominal	Maximum	Units
Heater Current	0.25		0.35	ADC
Anode Pulse Voltage	1.6	-	2.2	kV
Anode Capacitance	-	-	55.0	pF
Peak Output Power	1.3	-	-	kW
MA2849 Output Frequency	9.305	9.345	9.385	GHz
Pulse Duration	0.50	-	12.0	$\mu$ Sec.
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	-	2.3	kV
Anode Pulse Current	-	2.5	Amps
Pulse Duration	-	12.0	$\mu$ Sec.
Duty Factor	-	0.3	%
Average Input Power	-	15.0	Watts

Voltage Rate of Rise	-	12.5	kV/ $\mu$ Sec.
VSWR	-	1.5	-
Pressure Altitude	-	55,000	feet
Flange Temperature	-55	+90	$^{\circ}$ C

**Life Requirements - Table 4**

Characteristic	Minimum	Maximum	Units
Life Duration	500	-	Hours
End of Life Peak Power Output	1.0	-	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

**Copyright © 2005 MPD Components, Inc.**

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

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

[www.mpdcomponents.com](http://www.mpdcomponents.com)