

Mackay Marine e2v MAGNETRONS

e2v MG5223 or MG5223F S-BAND MAGNETRON



Fixed frequency pulse magnetron.

GENERAL DATA (This applies to MG5223.*)

Electrical

Operating frequency	3050 ± 10 MHz
Typical peak output power	30 kW
Cathode	indirectly heated
Heater voltage (see note 1)	6.3 V
Heater current at 6.3 V	1.25 A
Cathode pre-heating time (minimum)	180 s

Mechanical

Output	no. 10 waveguide
Magnet	integral
Coupler	mates with NATO S.N. 5985-99-083-0058
Cooling	natural or forced-air
Heater starting current, peak value, not to be exceeded	6.0 A max

Note 1

With no anode input power.
On the application of anode power, the heater voltage must be reduced as follows:

Mean input power (W)	Heater voltage (Vrms)
less than 25	6.3
25 to 62	5.3
62 to 100	4.5

The magnetron heater must be protected against arcing by the use of a minimum capacitance of 4000 pF shunted across the heater directly at the input terminals; in some cases a capacitance as high as 2 µF may be necessary depending on the equipment design. For further details see the Magnetron Preamble.

*General data for MG5223F available upon request.

e2v MG5424 or MG5436 X-BAND MAGNETRON



Compact, rugged, lightweight, fixed frequency pulse magnetron, designed for marine radar applications.

GENERAL DATA (This applies to MG5436.**)

Electrical

Operating frequency	9410 ± 30 MHz
Typical peak output power	25 kW
Cathode	indirectly heated
Heater voltage (see note 1)	6.3 V
Heater current at 6.3 V (see note 2)	0.5 A
Cathode pre-heating time (minimum) (see note 3)	60 s
Input capacitance	9.0 pF max
Temperature coefficient of frequency	see note 4

Mechanical

Output	no.16 waveguide (22.86 x 10.16 mm internal) integral
Magnet	A minimum clearance of 25 mm must be maintained between the magnetron and any magnetic materials.
Coupler	IEC UBR100
Cooling	natural
Net weight	0.7 kg approx
Mounting position	any

Notes

- For optimum performance a value of 6.3 V is recommended. However, this magnetron will work satisfactorily within the specified limits. The magnetron heater must be protected against arcing by the use of a minimum capacitance of 4000 pF shunted across the heater directly at the input terminals; in some cases a capacitance as high as 2 mF may be necessary depending on the equipment design. For further details see the Magnetron Preamble.
- Measured with heater voltage of 6.3 V and no anode input power, the heater current limits are 0.5 A minimum, 0.6 A maximum.
- For ambient temperatures above 0 °C. For ambient temperatures between 0 and -55 °C, cathode pre-heating time is 90 seconds minimum.
- Design test only. The maximum frequency change with anode temperature change (after warming) is -0.25 MHz/°C.

**General data for MG5424 available upon request.



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