

DESCRIPTION

The MG5353 is a fixed frequency pulse magnetron for use in marine radar systems. The peak power output is typically 1.5 kW at a frequency between 9380 and 9440 MHz.

This tube is one of Marconi Applied Technologies' range of third generation marine magnetrons, known throughout the world for their long life and reliability. Every magnetron is tested to an exacting environmental and electrical specification.

TYPICAL OPERATION

	Min	Typical	Max	
Heater voltage	-	6.3	-	V
Heater current	-	0.6	-	A
Pulse duration	-	0.9	-	µs
Pulse repetition rate	-	1000	-	pps
Peak anode voltage	-	1.9	-	kV
Peak anode current	-	2.0	-	A
Peak output power	1.2	1.5	-	kW
Mean output power	0.6	0.75	-	W
RF bandwidth	-	2.4	-	MHz
Sidelobe amplitude	-	-9	-	dB
Frequency	9380	-	9440	MHz
Missing pulses	-	-	0.01	%

MAXIMUM AND MINIMUM RATINGS

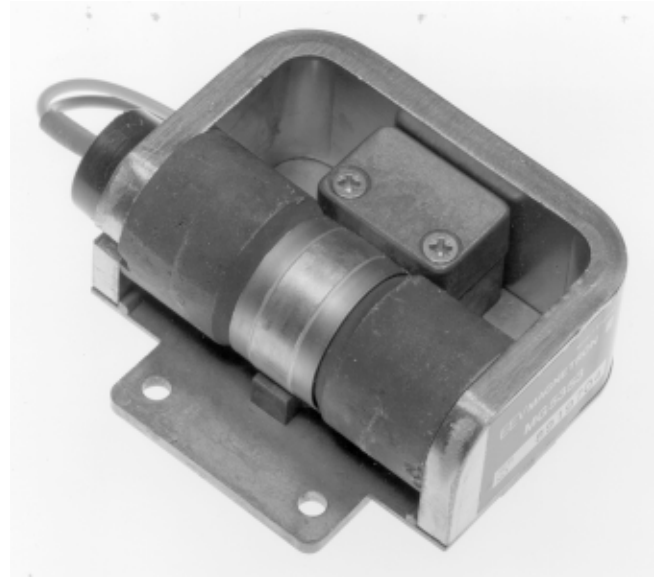
	Min	Max	
Heater voltage	5.7	6.9	V
Anode voltage (see note 4)	1.8	2.0	kV
Anode current	1.5	2.2	A
Mean anode input power	-	4.4	W
Duty cycle	-	0.001	
Pulse duration	0.05	1.0	µs
Rate of rise of voltage	-	25	kV/µs
Cathode preheat time	60	-	s
Peak input power	-	4.4	kW
Load VSWR	-	1.5:1	

MECHANICAL

Overall dimensions	see outline
Net weight	0.5 kg approx
Mounting position	any
Output	no. 16 waveguide

USER NOTES

1. A minimum clearance of 25 mm must be maintained between the magnet and any magnetic materials.
2. This data sheet should be read in conjunction with the magnetron preamble.
3. For further information on the use of the magnetron please contact Marconi Applied Technologies.
4. Measurements taken 'as read' using suitably calibrated equipment.



HEALTH AND SAFETY HAZARDS

Marconi Applied Technologies magnetrons are safe to handle and operate, provided that the relevant precautions stated herein are observed. Marconi Applied Technologies does not accept responsibility for damage or injury resulting from the use of electronic devices it produces. Equipment manufacturers and users must ensure that adequate precautions are taken. Appropriate warning labels and notices must be provided on equipments incorporating Marconi Applied Technologies devices and in operating manuals.



High Voltage

Equipment must be designed so that personnel cannot come into contact with high voltage circuits. All high voltage circuits and terminals must be enclosed and fail-safe interlock switches must be fitted to disconnect the primary power supply and discharge all high voltage capacitors and other stored charges before allowing access. Interlock switches must not be bypassed to allow operation with access doors open.



RF Radiation

Personnel must not be exposed to excessive RF radiation. All RF connectors must be correctly fitted before operation so that no leakage of RF energy can occur and the RF output must be coupled efficiently to the load. It is particularly dangerous to look into open waveguide or coaxial feeders while the device is energised. Screening of the cathode sidearm of high power magnetrons may be necessary.



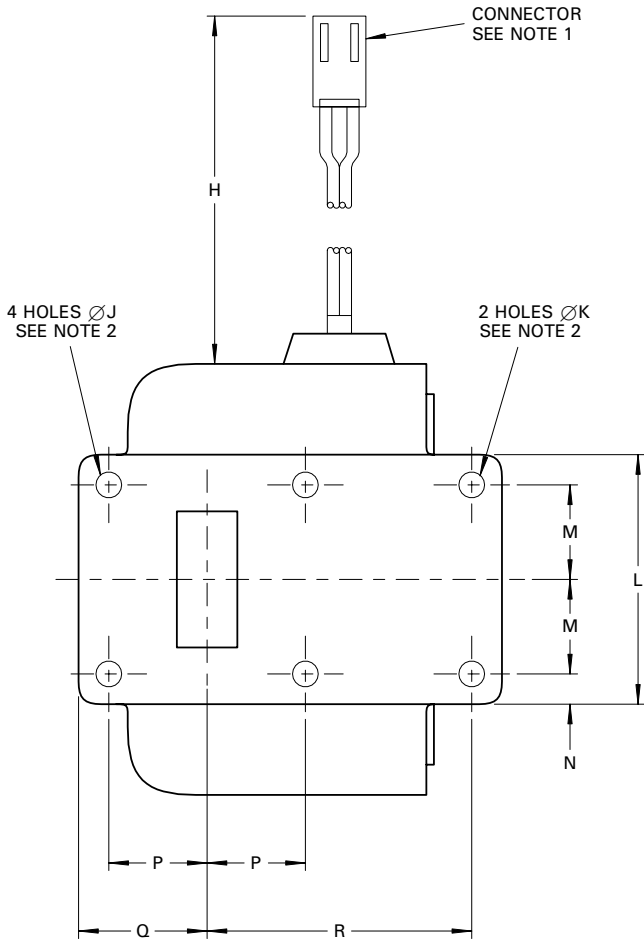
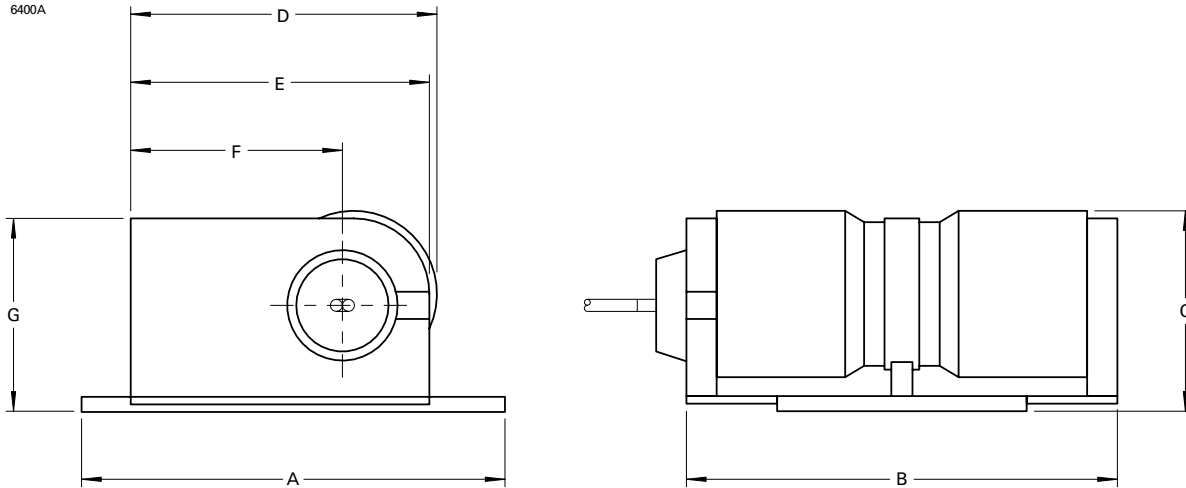
X-Ray Radiation

High voltage magnetrons emit a significant intensity of X-rays not only from the cathode sidearm but also from the output waveguide. These rays can constitute a health hazard unless adequate shielding for X-ray radiation is provided. This is a characteristic of all magnetrons and the X-rays emitted correspond to a voltage much higher than that of the anode.

OUTLINE

(All dimensions without limits are nominal)

6400A



Ref	Millimetres
A	70.2 max
B	72.0 max
C	33.0 max
D	51.0 max
E	49.0
F	36.15
G	32.0 max
H	80.0 + 5.0
J	4.39 max
	4.24 min
K	4.52 max
	4.37 min
L	41.6 max
M	15.5
N	5.2
P	16.26
Q	20.2 max
R	43.74

Outline Notes

- Heater cathode connector JST VHR-2N or equivalent.
 - Heater Green
 - Heater, cathode Yellow
- Positional tolerance 0.4 mm diameter.
- The mating surface of the magnetron baseplate will be flat to within 0.2 mm.

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