

**Released**

# X-band Magnetron

## Model No. 9M31

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Microwave Business Headquarters**

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## ■ GENERAL DESCRIPTION

9M31 is designed for the magnetron of X-band radar system. The frequency range is fixed <9380 - 9440MHz> and the peak output power is 50kW.



## ■ ELECTRICAL CHARACTERISTICS

PARAMETERS	MINIMUM	TYPICAL	MAXIMUM	UNITS
Heater voltage (note 1)	5.7	6.3	6.9	V
Heater current	0.9	1.1	1.2	A
Preheat time	120	-	-	s
Peak anode voltage (note 2)	11	12	13	kV
Peak output power (note 2)	40	-	-	kW
Frequency (note 2)	9380	9410	9440	MHz

## ■ ABSOLUTE MAXIMUM RATINGS

These ratings cannot necessarily be used simultaneously and no individual ratings should be exceeded.

PARAMETERS	MINIMUM	MAXIMUM	UNITS
Peak anode current	3.5	16.0	A
Peak anode power input	-	230	kW
Duty cycle	-	0.001	-
Pulse duration	-	2.5	μs
Rate of rise of voltage pulse	-	100	kV/μs
Anode temperature	-	100	°C
VSWR at the output coupler	-	1.5 : 1	-

### Notes

1. Measured with heater voltage of 6.3 V and no anode input power. For average pulse input powers greater than 150 W, the heater voltage must be reduced within 3 s after started to apply the high voltage following the below schedule;

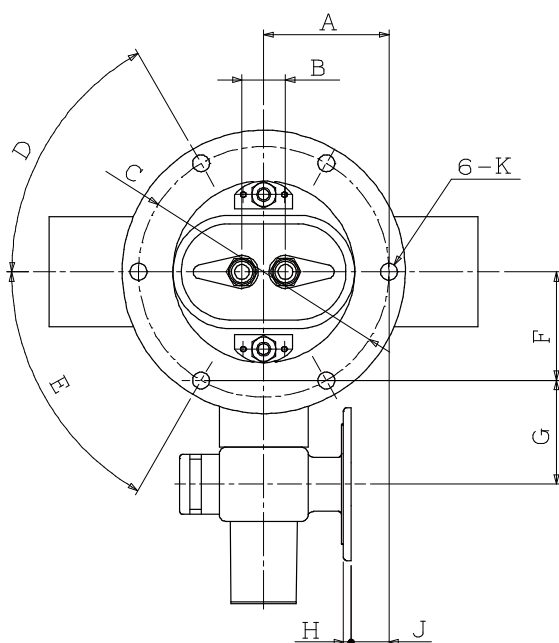
$$\text{Heater Voltage: } E_f = 6.3 \sqrt{1 - \frac{P_i}{100}} \text{ [V]}$$

$$\text{Mean input power (Pi) = Anode current} \times \text{Anode voltage} \times \text{Duty cycle (W)}$$

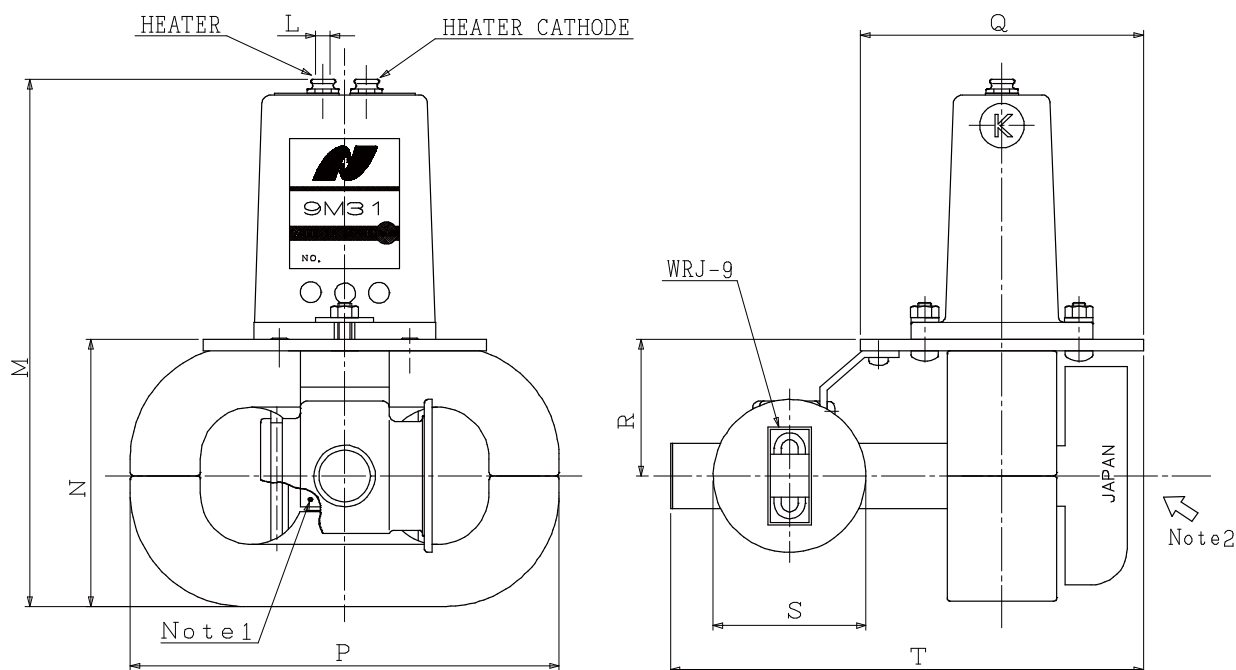
2. Measured at peak anode current 12 A.

\*Above Specifications are subject to change without notice.

## ■ OUTLINE



SYMBOLS	MAX	MIN
* A	37.25	35.75
* B	12.95	12.45
* C	φ73.15	φ72.85
* D	60° 12'	59° 48'
* E	60° 12'	59° 48'
F	31.61	
* G	30.78	29.79
* H	2.29	2.03
* J	11.60	10.60
* K	φ4.98	φ4.82
* L	4.43	4.17
**M	156.70	—
**N	79.40	—
**P	136.50	—
**Q	83.40	81.80
* R	40.18	39.18
* S	φ44.63	φ44.27
**T	145.90	—



(Dimensions are expressed in "mm".)

### Outline Notes

1. Anode temperature measured at this point.
2. Recommended direction of air flow.

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