

Date

July. 10, 2019

Released

X band Magnetron

Model No. 2J55

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Microwave Division

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New Japan Radio Co., Ltd.
Microwave Division

Title:

Datasheet of 2J55

Reference No.:
DS-2J55

Rev.:
02E

Sheet:
1/3

■ GENERAL DESCRIPTION

2J55 is designed for the magnetron of X band radar system. The frequency range is fixed <9345~9405MHz> and the peak output power is 50 kW.



■ ELECTRICAL CHARACTERISTICS

| PARAMETERS | Minimum | Typical | Maximum | Unit |
|-----------------------------|---------|---------|---------|------|
| 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) | 9345 | 9375 | 9405 | MHz |

■ ABSOLUTE MAXIMUM RATINGS

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

| PARAMETERS | Minimum | Maximum | Unit |
|-------------------------------|---------|---------|-------|
| 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;

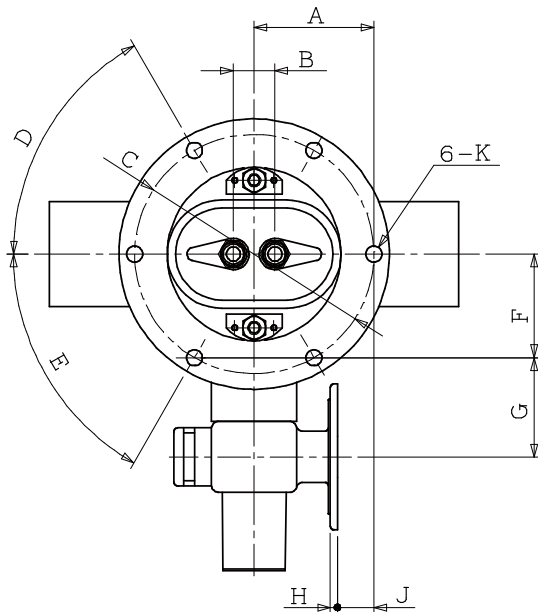
$$\text{Heater Voltage : } E_f = 6.3 \sqrt{1 - \frac{P_i}{150}} \text{ [V]}$$

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

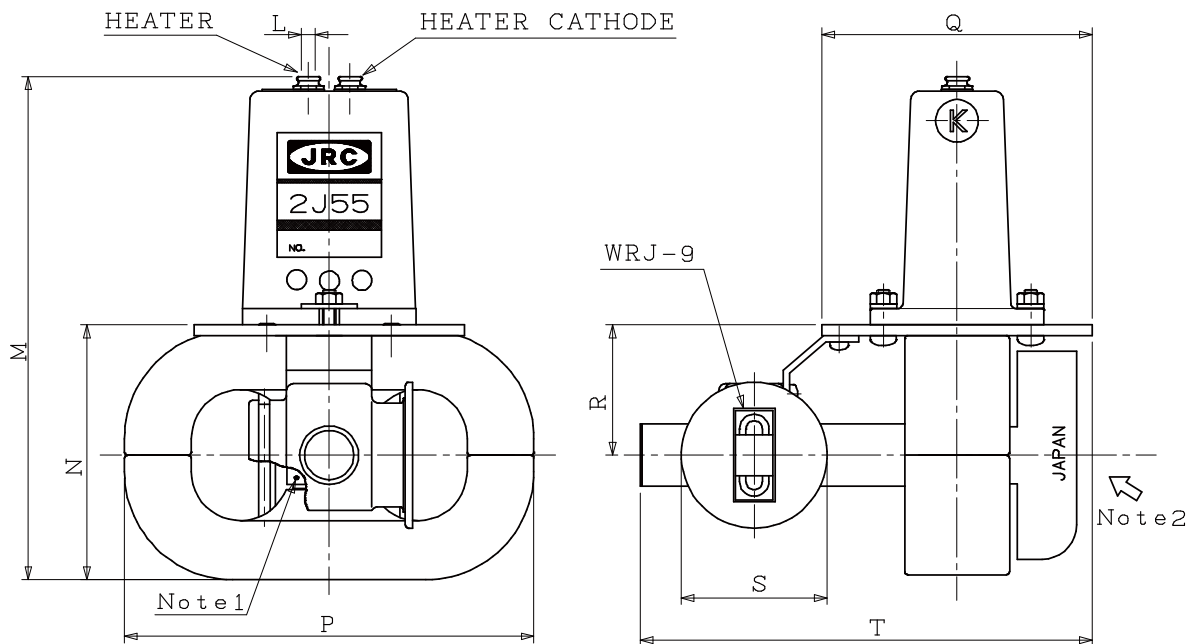
2. Measured at peak anode current 12 A.

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■ 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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