

MAGNETRON

JN2-2.5A

Frequency: 2.45 ± 0.025 Gc/s, fixed
Power output: 2.5kW, c.w.
Construction: Unpackaged, forced-air cooled
Application: Microwave heating

PRELIMINARY DATA

This data should be read in conjunction with GENERAL OPERATIONAL RECOMMENDATIONS—MICROWAVE DEVICES which precede this section of the handbook.

CHARACTERISTICS

| | | |
|--|----------------|------|
| Frequency fixed within the band | 2.425 to 2.475 | Gc/s |
| Operating voltage range (d.c.), I = 750mA with P2J-1 magnet | 4.3 to 4.7 | kV |

CATHODE

Indirectly heated, dispenser type

| | | |
|----------------------|------|----------|
| V_h | 5.0 | V |
| I_h | 32 | A |
| r_h (cold) | 0.02 | Ω |
| Minimum heating time | 2.0 | min |

The surge current when switching on must not exceed 100A.

It is necessary to reduce the heater voltage immediately after the application of anode power, to compensate for additional heating of the cathode by back bombardment. The correct value of the nominal heater voltage is given by the curve (full line) on page C2.

Where it is required to design a heating generator for several fixed output power levels, the heater voltage may be reduced in one or two steps depending on the anode current range. The appropriate nominal value of heater voltage is that which falls within the limit curves (dotted lines) for the appropriate operating current. The deviation from the nominal should be kept to a minimum.

Temporary fluctuations not exceeding +5% and -10% of the nominal value are permissible.

MOUNTING POSITION

Any

STORAGE AND HANDLING

During transport and storage a minimum distance of 2 inches should be maintained between magnets. In equipment a minimum radial distance of 4 inches must be maintained between the magnetron and magnetic materials.

The characteristics, operating conditions, limiting values, operating notes and curves are identical with those of the JN2-2.5W.



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COOLING

Forced-air (See curve on page C1)

Maximum temperature of anode block at a point very close to the output coupling

125 °C

Maximum temperature of cathode terminal at any point on the cathode resistor

180 °C

Cooling clip type 40634 should be attached to the filament terminal and a flow of air of approximately 2 cu. ft./min. should be directed at the cathode radiator and not allowed to cool the supporting glassware.

A plate is provided on the air duct around the anode block for the mounting of a thermally operated circuit breaker to protect the valve in the event of failure of the cooling air. This circuit breaker should come into operation at 150°C approximately.

PHYSICAL DATA

Weight of magnetron

{ 9.3 lb
4.2 kg

Weight of magnet

{ 12.3 lb
5.6 kg

ACCESSORIES

Magnet

P2J-1

Cap nut

55312

Spring ring

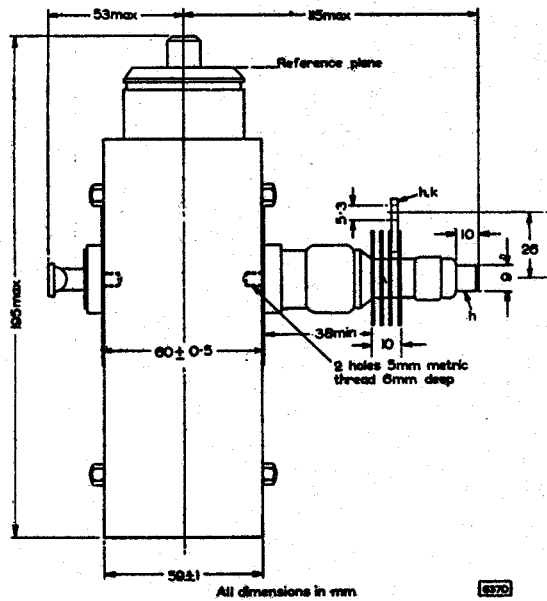
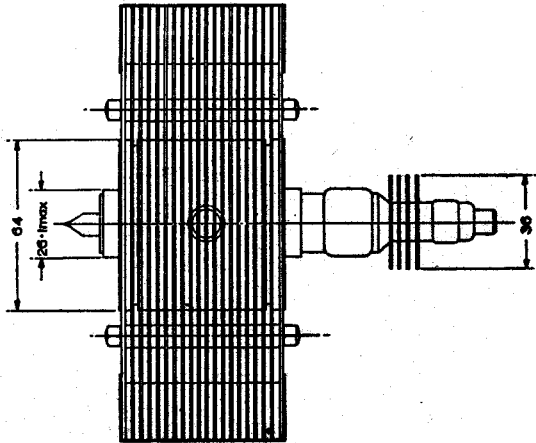
55313

Filament terminal cooling clip

40634

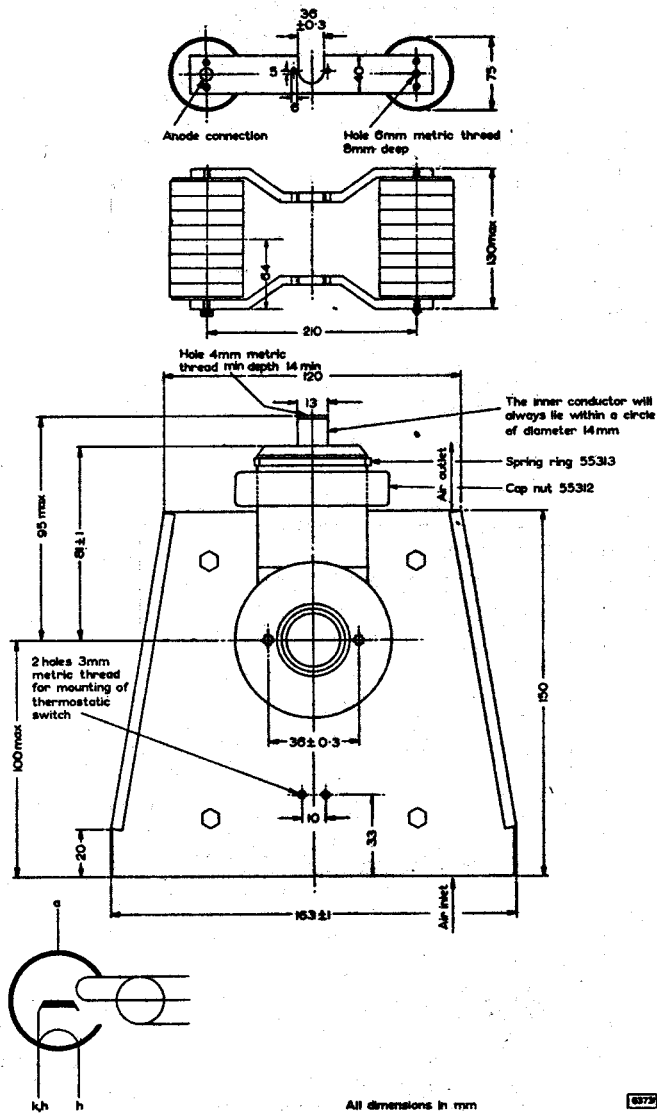
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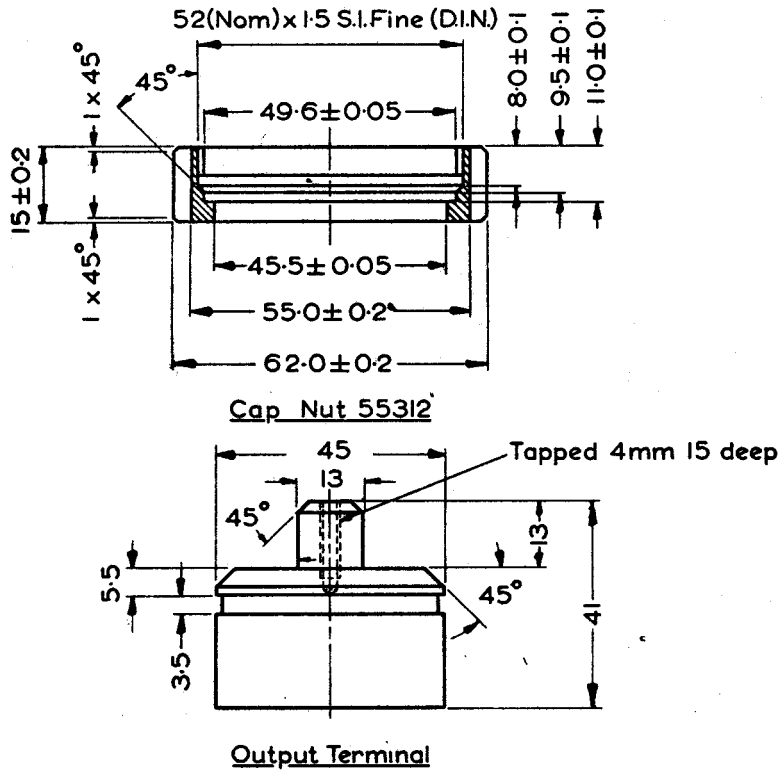
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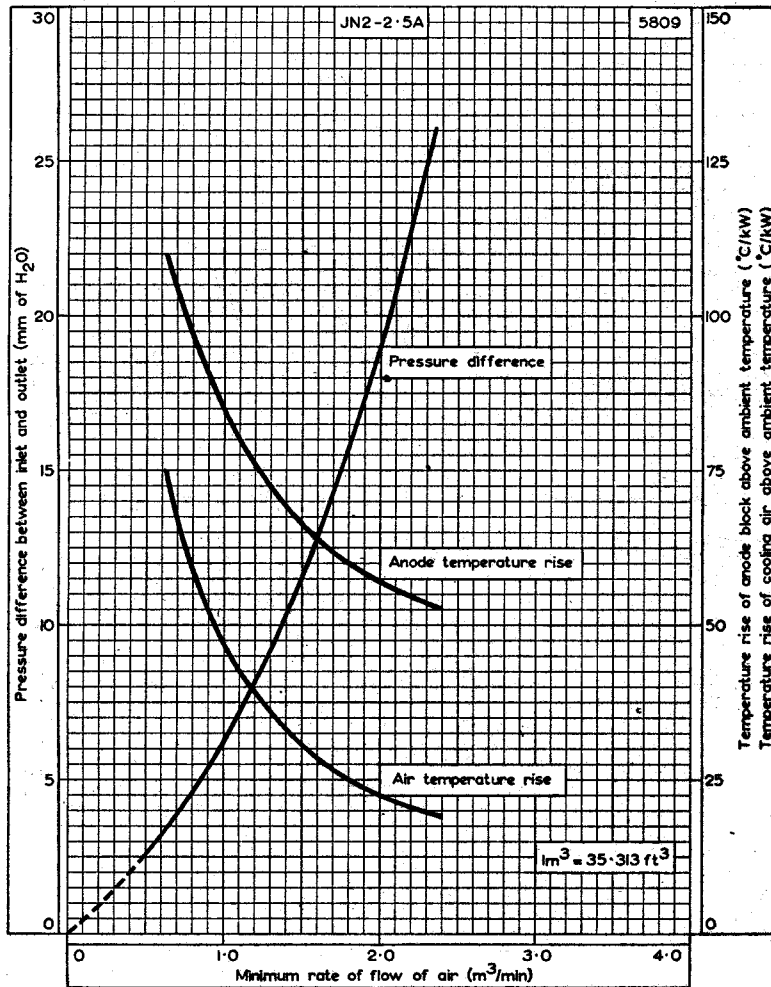
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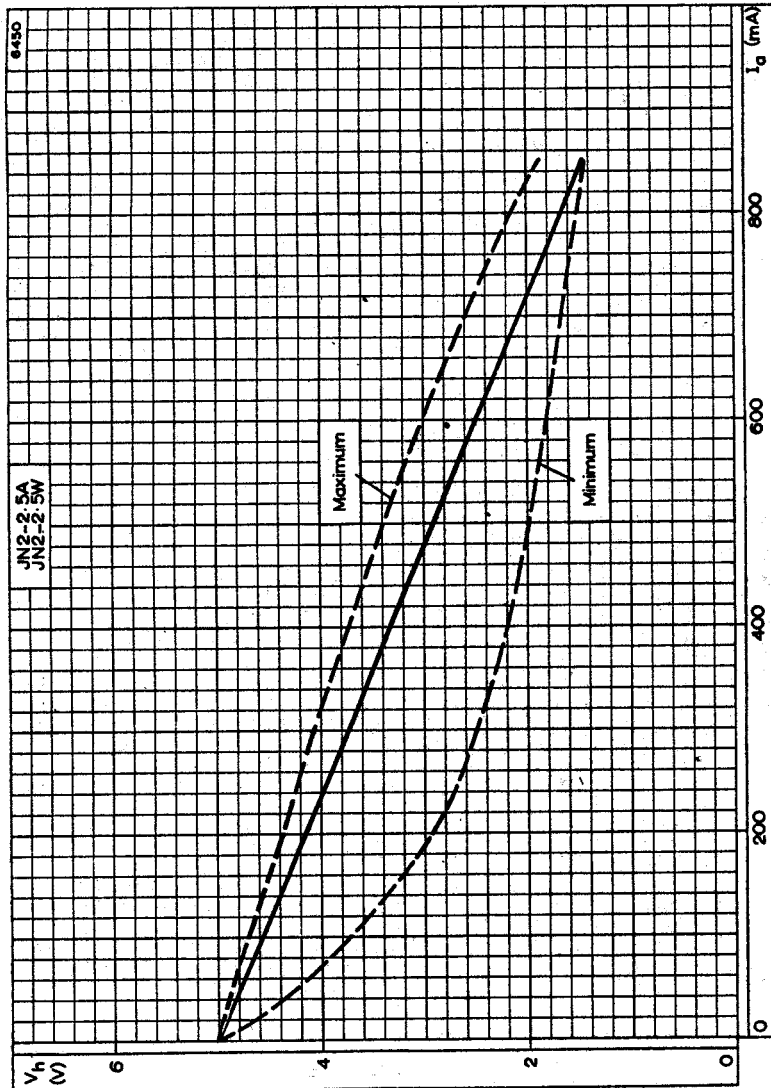
6047 All dimensions in mm



COOLING CURVES

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REDUCTION OF HEATER VOLTAGE PLOTTED AGAINST ANODE CURRENT