

MAGNETRON

JP9-01

Frequency: 'X' band, fixed.
Power output: 10W, c.w.
Construction: Packaged, forced-air cooled.

PRELIMINARY DATA

This data should be read in conjunction with GENERAL OPERATIONAL RECOMMENDATIONS - MICROWAVE DEVICES: INTRODUCTION and RADAR AND COMMUNICATION MAGNETRONS which precede this section of the handbook.

CHARACTERISTICS

	Min.	Max.	
Frequency	9.345	9.405	Gc/s←
Fixed within the band	—	—	
Operating voltage (I = 50mA)	0.9	1.1	kV
R.F. power output (I = 50mA)	8.0	—	W
Frequency pulling factor (v.s.w.r. = 1.5)	—	15	Mc/s
Frequency pushing factor	—	0.5	Mc/s per mA
Frequency temperature coefficient	—	-0.25	Mc/s per °C←

CATHODE

Indirectly heated			
V_h	6.3		V
I_h	1.2		A←

Heating time. At ambient temperatures above 0°C the cathode must be heated for at least 2 minutes before the application of h.t. Below this temperature the heating time must be increased to at least 3 minutes.

OPERATING CONDITIONS

Frequency	9.375	Gc/s
Heater voltage (running)	6.3	V
Operating voltage	930	V
Operating current	50	mA
Input power	46	W
R.F. power output	10	W
Frequency pulling (v.s.w.r. = 1.5)	13	Mc/s

OPERATING NOTE

A limiting resistor of 1kΩ should be inserted in series with the magnetron.

COOLING

It is necessary to direct a flow of cooling air between the radiator fins in order to keep the temperature below the permitted maximum.

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ABSOLUTE MAXIMUM RATINGS

	<i>Min.</i>	<i>Max.</i>	
Operating current (unmodulated c.w.)	20	60	mA
Peak operating current (modulated c.w.)	—	100	mA
Operating voltage	0.85	1.15	kV
Mean input power	—	60	W
Load mismatch (v.s.w.r.)	—	1.5	
Temperature of anode block	—	140	°C

MOUNTING POSITION

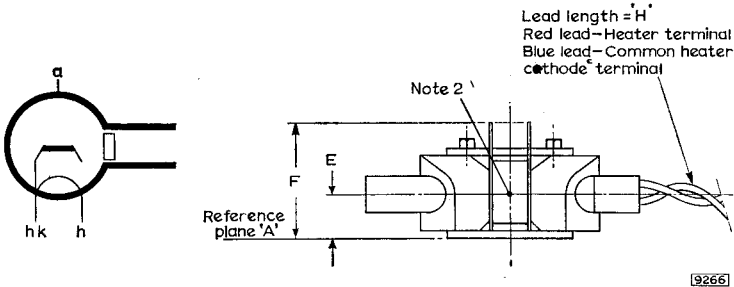
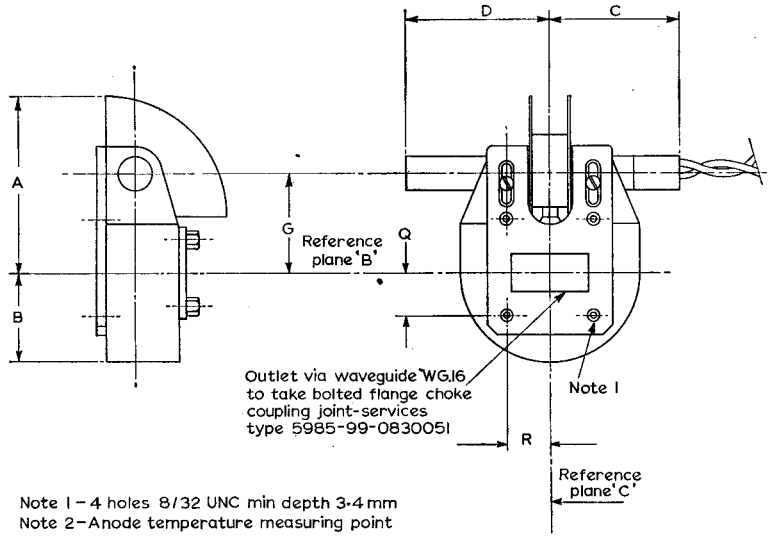
Any

PHYSICAL DATA

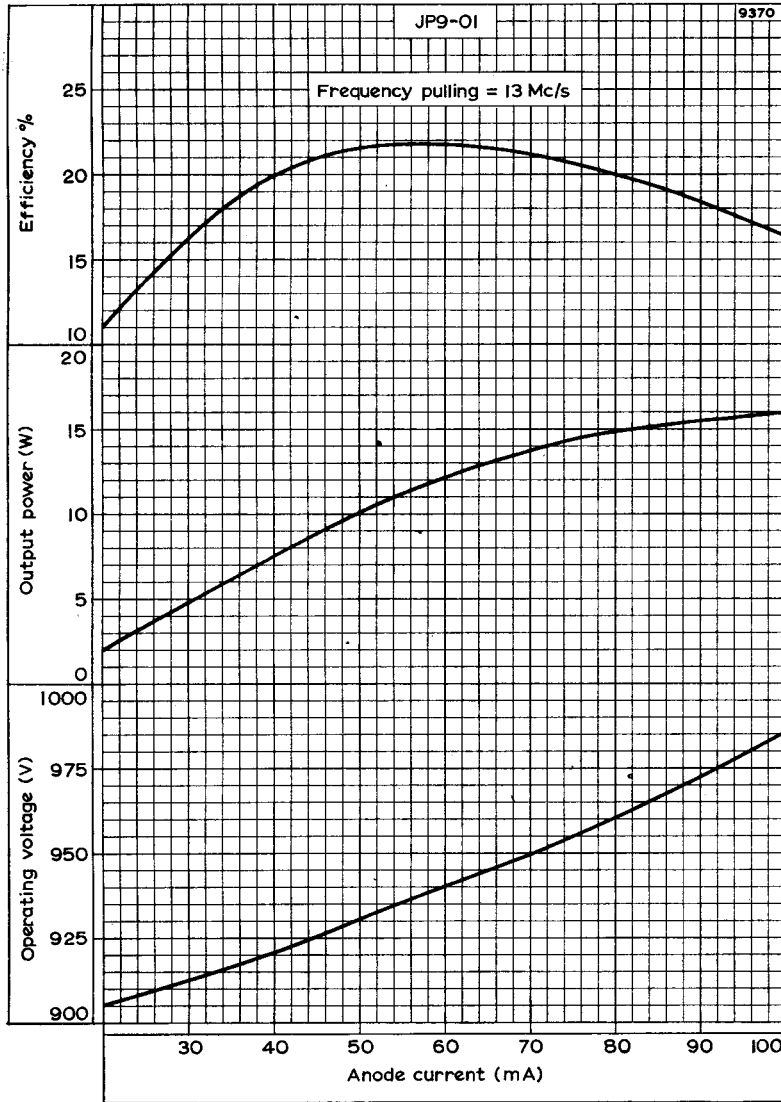
Weight of magnetron	{ 1.0 lb 454 g
Weight of magnetron in carton	{ 2 lb 4 oz 1.02 kg
Dimensions of storage carton	{ 5.0 × 7.25 × 7.25 in 127 × 184 × 184 mm ←

DIMENSIONS

	<i>Inches</i>	<i>Millimetres</i>	
A	2.36	60	max.
B	1.26	32	max.
C	1.97	50	max.
D	1.73	44	max.
E	0.53 ± 0.02	13.5 ± 0.5	
F	1.77	45	max.
G	1.22 ± 0.08	31 ± 2	
H	5.1 ± 0.2	130 ± 5	
P	0.32 ± 0.04	8 ± 1	
Q	0.64	16.2	
R	0.61	15.5	



ANODE CONNECTION TERMINATED AT THE BASE PLATE



OPERATING VOLTAGE, R.F. POWER OUTPUT AND EFFICIENCY PLOTTED AGAINST ANODE CURRENT

