

MAGNETRON

Frequency: 'C' band, fixed.
Power output: 70W, pulsed.
Construction: Packaged, natural cooling.

JP5-04
JP5-04B
JP5-04C

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

Frequency	Min.	Max.	
Fixed within the band			
JP5-04	5.43	to 5.47	G/cs
JP5-04B	5.63	to 5.67	Gc/s
JP5-04C	5.83	to 5.87	Gc/s
Pulse voltage ($I_{\text{pulse}} = 200\text{mA}$)	0.95	1.15	kV
R.F. pulse power output ($I_{\text{pulse}} = 200\text{mA}$)	40	—	W
Frequency pulling factor (v.s.w.r. = 1.5)		15	Mc/s
Frequency pushing factor		0.1 Mc/s per mA	
Frequency temperature coefficient		-0.2 Mc/s per °C	
Input capacitance		9.0	pF

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.

TYPICAL OPERATION

Heater voltage (running)	6.3	V
Pulse duration	1.0	μs
Pulse repetition frequency	1000	p/s
Duty cycle	0.001	
Pulse current	200	mA
Pulse voltage	1.05	kV
R.F. pulse output power	70	W
Mean input current	0.2	mA
Mean input power	210	mW
Mean r.f. output power	70	mW
Frequency pulling (v.s.w.r. = 1.5)	11	Mc/s
Rate of rise of pulse voltage	5.0	kV/μs

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ABSOLUTE MAXIMUM RATINGS

	<i>Min.</i>	<i>Max.</i>	
Pulse current	175	225	mA
Pulse voltage	0.9	1.2	kV
Pulse duration		2.0	μ s
Duty cycle		0.01	
Mean input power		3.0	W
Rate of rise of voltage pulse		6.0	kV/ μ s
Load mismatch (v.s.w.r.)		1.5	
Temperature of anode block		140	$^{\circ}$ C

MOUNTING POSITION

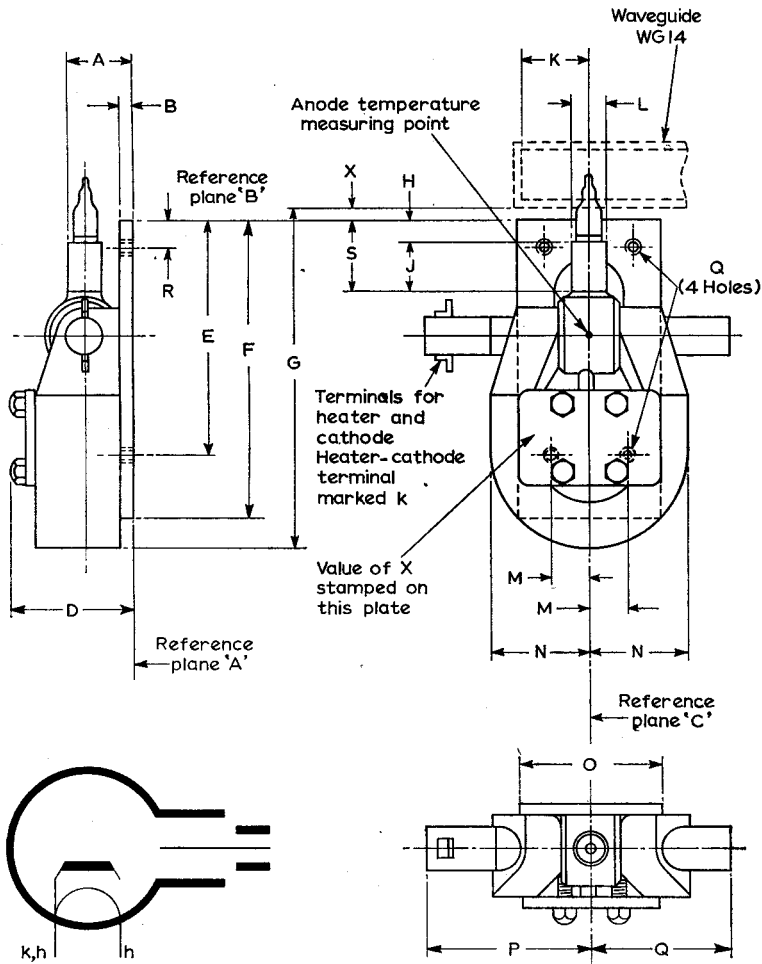
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PHYSICAL DATA

Weight of magnetron	{ 1.2 lb 560 g
Weight of magnetron in carton	{ 2.4 lb 1.1 kg
Dimensions of storage carton	{ 5.0 x 7.25 x 7.25 in 127 x 184 x 184 mm

DIMENSIONS

	<i>Inches</i>	<i>Millimetres</i>	
A	0.75 \pm 0.01	19.1 \pm 0.3	
B	0.175 \pm 0.005	4.45 \pm 0.13	
D	1.5	38	max.
E	2.625	66.58	
F	3.4 \pm 0.1	86 \pm 3.0	
G	3.897	98.98	max.
H	0.25	6.35	max.
J	0.57 \pm 0.02	14.5 \pm 0.5	
K	0.669	17	
L	0.3935 \pm 0.0005	9.995 \pm 0.013	
M	0.375	9.53	
N	1.2	30	max.
O	1.65 \pm 0.05	41.9 \pm 1.3	
P	2.0	51	max.
Q	1.65 \pm 0.05	41.9 \pm 1.3	
R	0.380	9.65	
S	0.81 \pm 0.06	20.6 \pm 1.5	
X	1.67 \pm 0.30	4.25 \pm 0.75	

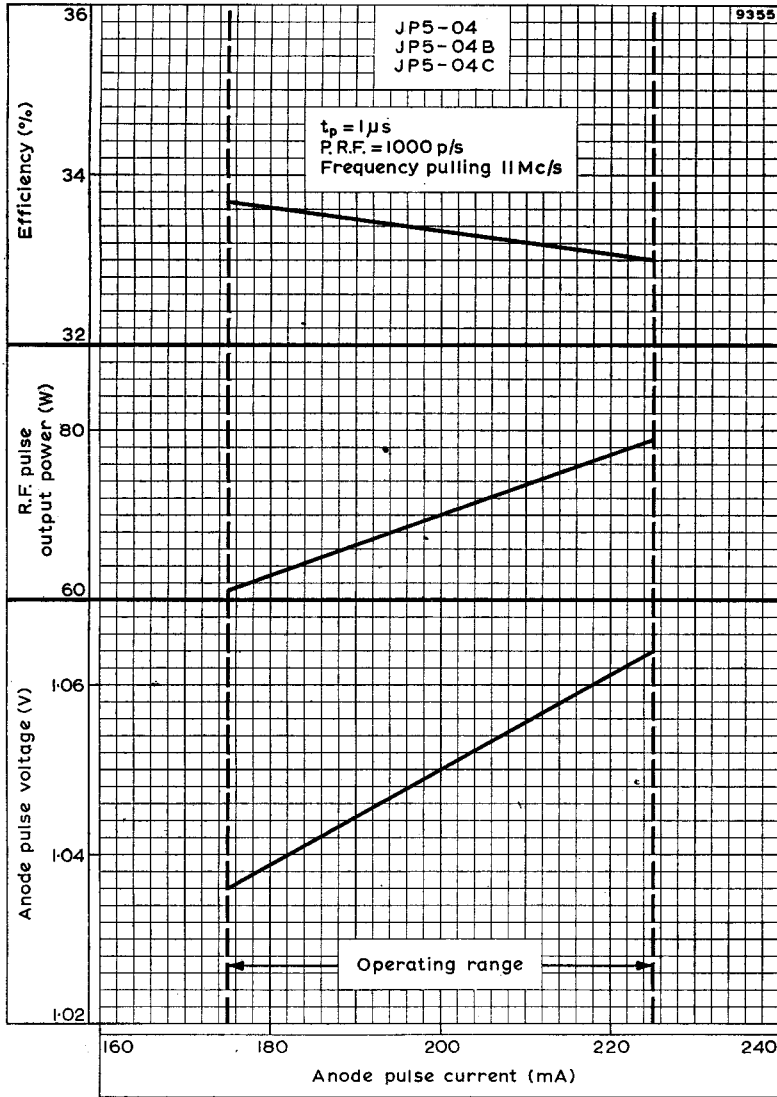


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ANODE CONNECTION TERMINATED AT THE BASE PLATE

MAGNETRON

JP5-04
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JP5-04C



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

