

Packaged MAGNETRON for use as pulsed oscillator, operating at a fixed frequency in the X-band between the limits of 9190 and 9320 Mc/s and capable of delivering a peak output power of min. 2.5 kW. The output system has been designed for coupling to a standard rectangular waveguide RG-52/U (EIA designation WR90) with outside dimensions 1/2" x 1"

HEATING

Indirect. Heater voltage $V_f = 6.3 \text{ V} \pm 5\%$
 Heater current at 6.3V $I_f(V_f=6.3 \text{ V}) = 0.5 \text{ A}$

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

TYPICAL CHARACTERISTICS

Frequency	$f =$ between 9190 and 9320 Mc/s
Negative temperature coefficient	$-\frac{\Delta f}{\Delta t} = \text{max. } 0.25 \text{ Mc/s}^\circ \text{C}$
Pulling figure at voltage standing wave ratio = 1.5	$\Delta f_p(\text{VSWR}=1.5) = \text{max. } 18 \text{ Mc/s}$
Pushing figure	$\frac{\Delta f}{\Delta I_{ap}} = \text{max. } 2.5 \text{ Mc/sA}$
Distance of voltage standing wave minimum from face of mounting plate into magnetron	$d = 3 - 9 \text{ mm}$
Peak anode voltage at peak anode current = 3A	$V_{ap}(I_{ap} = 3 \text{ A}) = 3.2-3.6 \text{ kV}$
Input capacitance	$C_{ak} = \text{max. } 9 \text{ pF}$

COOLING Naturel

MAGNETRON OUTPUT

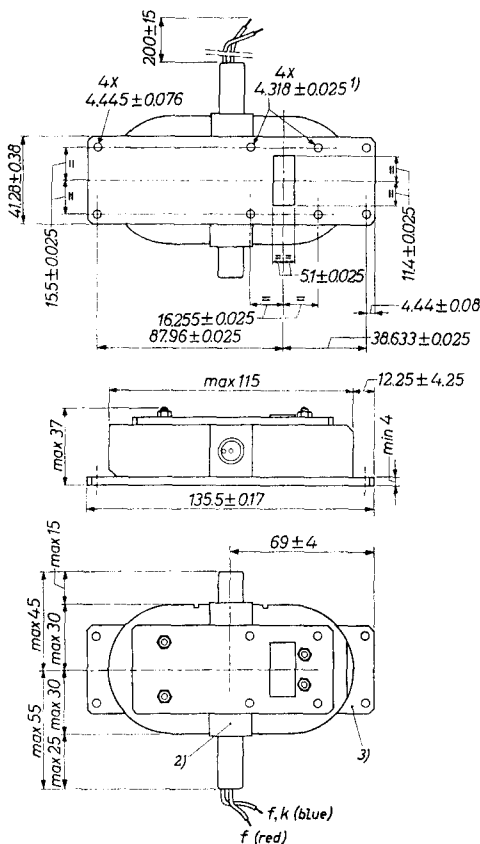
To fasten the magnetron base plate to the RG-52/U waveguide the bolted flange choke coupling joint, services type 5985-99-0830051 should be used.

MOUNTING POSITION Any

NET WEIGHT 1 kg Shipping weight 2.3 kg

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Dimensions in mm



1) Holes for locating pins, depth 4 mm

2) Point for temperature measurement

3) The anode is terminated at the base plate

LIMITING VALUES (Absolute limits)

Each limiting value should be regarded independently of other values, so that under no circumstances it is permitted to exceed a limiting value whichever.

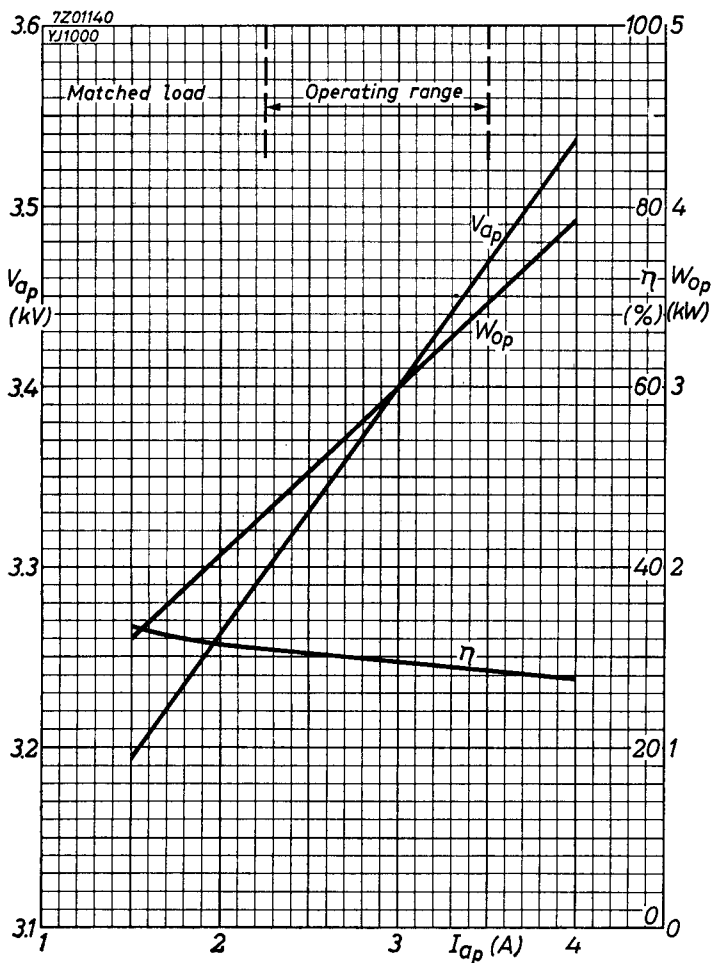
Pulse duration	T_{imp}	= max. 1 μ sec = min. 0.02 μ sec
Duty factor	δ	= max. 0.001
Peak anode current	I_{ap}	= max. 3.5 A = min. 2.25 A
Average input power	W_i	= max. 13 W
Rate of rise of anode voltage	$\frac{\Delta V}{\Delta T_{rv}}$	= max. 60 kV/ μ sec
Voltage standing wave ratio	V.S.W.R.	= max. 1.5
Temperature of anode block (See note ²) page 2)	t_a	= max. 120 °C

OPERATING CHARACTERISTICS

Heater voltage	V_f	= 6.3 V
Pulse duration	T_{imp}	= 0.1 μ sec
Duty factor	δ	= 0.0002
Pulse repetition rate	f_{imp}	= 2000 c/s
Peak anode voltage	V_{ap}	= 3.4 kV
Rate of rise of anode voltage	$\frac{\Delta V_a}{\Delta T_{rv}}$	= 50 kV/ μ sec
Average anode current	I_a	= 600 μ A
Peak anode current	I_{ap}	= 3 A
Average output power	W_o	= 0.6 W
Peak output power	W_{op}	= 3 kW
Pulling figure at voltage standing wave ratio = 1.5	$\Delta f_p(VSWR=1.5)$	= 15 Mc/s

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YJ1000**PHILIPS**LOAD DIAGRAM of average magnetron

Measured at:

Peak anode current

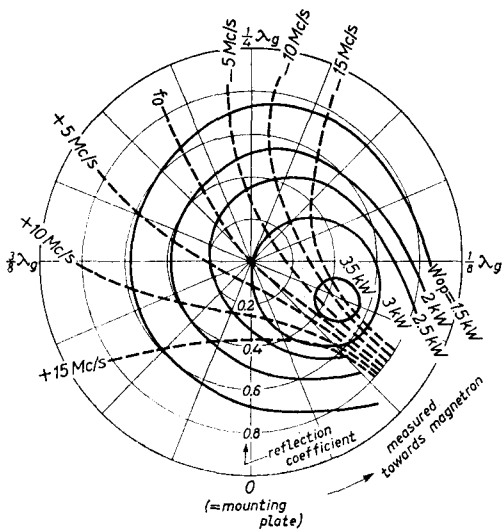
$$I_{ap} = 3.0 \text{ A}$$

Frequency

$$f_o = 9245 \text{ Mc/s}$$

Pulling figure

$$\Delta f_p = 15 \text{ Mc/s}$$





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page	sheet	date
1	1	1962.11.11
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3	3	1962.11.11
4	A	1962.11.11
5	B	1962.11.11
6	FP	1999.12.24