

Fixed-frequency pulse magnetron designed for high-peak-power microwave oscillator service.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	—
NOMINAL HEATER	128 V / 22 A	PARALLEL HEATER	— / —
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION1 Magnetron

No fixed ratings recorded.

Microwave/special-function section; schema has no directly applicable promoted electrode fields; published electrical data preserved in parameters.

Fixed frequency pulse magnetron

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1971 English Electric Valve

Published test conditions and operating points. Values on this page are preserved as reported by this source.

1971 ENGLISH ELECTRIC VALVE Section 1 · Magnetron

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Frequency range	9345109405 A	Frequency range A 9345109405 MHz
Heater currentat 126V	22 A	Heater currentat 126V 22 A
Cathode pre-heating time (maximum)	15 min	Cathode pre-heating time (maximum) 15 min
Heater starting current {peak}	10 A	Heater starting current {peak} 10 A
Anode voltage {peak}	135 kv	Anode voltage {peak} 135 kv
Anode current (peak)	12 A	Anode current (peak) 12 A
Pulse duration	5	Pulse duration 5.0 us
Anode temperature	150	Anode temperature 150 °c
V.S.W.R. at the output couple	151 V	V.S.W.R. at the output couple 151
Altitude {at v.s.w.r. 1.2:1 max}	0 v	Altitude {at v.s.w.r. 1.2:1 max} 20 000 ft
Heater voltage	75 v	Heater voltage 75 v
Anode current (peak)	12 A	Anode current (peak) 12 A
Pulse duration	40 s	Pulse duration 40 s
Pulse repetition rate	400	Pulse repetition rate 400 p.ps.
Anode voltage (peak)	3 kv	Anode voltage (peak) 3 kv
Heater voltage (fortest)	93	Heater voltage (fortest) 93 \
Anode current {mean}	12 mA	Anode current {mean} 12 mA
Anode voltage [peak]	135 kv	Anode voltage [peak] 115 135 kv
Frequency pulling {v.s.w.r. 1 5 o	13 v	Frequency pulling {v.s.w.r. 1 5 o - 13 MHz
Frequency pushing	0.5 MHz	Frequency pushing . . . L. = 0.5 MHz/A

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Altitude {v.s.w.r. 1.2:1} (see	1 v	Altitude {v.s.w.r. 1.2:1) (see
Output power {mean)	32 W	Output power {mean) 32 W min
Frequency	9345109405 MHz	Frequency 9345109405 MHz
1. With no anode input power.	1	1. With no anode input power.
On stand by the heater voltage must not exceed 12.6 volts. Prior to the	12.6	On stand by the heater voltage must not exceed 12.6 volts. Prior to the
12.6 volts for 1% minutes	1	12.6 volts for 1% minutes. On application of anode power, the heater
minirum capacitance of 4000pF shunted across the heater directly at	4000	minirum capacitance of 4000pF shunted across the heater directly at
the input terminals; in some cases a capacitance as high as 2uF may be	2 a	the input terminals; in some cases a capacitance as high as 2uF may be
leading edge of the voltage pulse above 80 per cent amplitude	80	leading edge of the voltage pulse above 80 per cent amplitude. Any
capacitance used in the viewing system must not exceed 6.0pF	6	capacitance used in the viewing system must not exceed 6.0pF
Rate of rise of voltage pulse	60 kV	Rate of rise of voltage pulse . . . L. 60 kV/us max
Pulse duration	40 s	Pulse duration . . PPN .40 s
Anode current (mean)	192 mA	Anode current (mean) 192 mA
Load v.s.w.r. 1.6:1 varied through alt phases	1 v	Load v.s.w.r. 1.6:1 varied through alt phases.
With anode temperature of 100°C + 10°C. Operation at any tempera-	10 °C	With anode temperature of 100°C + 10°C. Operation at any tempera-
With the magnetron operating into a v.s.w.r. of 1.5:1 phased to give	1 a	With the magnetron operating into a v.s.w.r. of 1.5:1 phased to give
level is less than 70% of the normat energy level in a 0.5% frequency	0.5 a	level is less than 70% of the normat energy level in a 0.5% frequency
input pulses applied during the period of observation after a period of 5	5 a	input pulses applied during the period of observation after a period of 5

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Pulse duration	4	Pulse duration 4.0 us
Anode current (peak}	12 A	Anode current (peak} 12 A
Measured with heater voltage of 12.6V and no anade input power, the	12.6	Measured with heater voltage of 12.6V and no anade input power, the
heater current limits are 2.0A minimum, 2.4A maximum	2.4	heater current limits are 2.0A minimum, 2.4A maximum
5. The north seeking pole of the magnet is adjacent to the cathode sidearm	5	5. The north seeking pole of the magnet is adjacent to the cathode sidearm.

TUBE TINKER

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