



ELECTRONIC TUBE REFERENCE

4J57

Specialized - Magnetron electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION
CONSTRUCTION
MAGNETRON

High-power pulsed magnetron oscillator designed for radar and related short-pulse microwave applications at its specified operating frequency.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	—
NOMINAL HEATER	12.6 V / 3.25 A	PARALLEL HEATER	— / —
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION 1 Magnetron	
MAXIMUM PLATE VOLTAGE	20000 V
MAXIMUM PLATE DISSIPATION	450 W
MAXIMUM CATHODE CURRENT	35 A
<i>Amperex pulsed magnetron for radar and other short-pulse high-intensity RF applications.</i>	

Packaged pulsed magnetron oscillator covering approximately 6475-6575 MHz.



SOURCE OPERATING CONDITIONS

1938 Raytheon

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

1938 RAYTHEON

Section 1 · Magnetron

CHARACTERISTICS

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater or filament voltage	12.6 V	Published nominal value
Heater or filament current	3.25 A	Published nominal value
Frequency range	6475–6575 MHz	Published operating band

OTHER

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum plate dissipation	450 W	Published maximum rating
RF power output	250000 W	Published output condition
Pulse duration	1 us	Published pulse condition
Duty cycle	0.002 fraction	Published duty-cycle condition
Operating anode voltage	18600 V	Published typical operation
Operating anode current	30 A	Published typical operation



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1958 Amperex Industrial

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

1958 AMPEREX INDUSTRIAL

Section 1 · Magnetron

OTHER

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Frequency	6475–6575 MHz	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Pulsed RF output power	180 kW	Pulsed
Average RF output power	180 W	Pulsed
Pulsed plate voltage	17.5 kV	Pulsed
Pulsed plate current	30 A	Pulsed
Average plate current	30 mA	Pulsed
Magnetic field	Packaged	—
Duty factor	0.001	Pulsed



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1999 Philips 0-D

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

1999 PHILIPS 0-D

Section 1 · Magnetron

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Operating frequency	6475-6575 MHz	—
Peak anode current	35 A	—
Peak output power	210 kW	—
Average output power	210 W	—
Pulse duration	1 us	—

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak anode voltage	16-19 kV	—
Minimum life	500 h	—

TUBE TINKER

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