

Four-cavity power-amplifier klystron for 1.7–2.4 GHz tropospheric-scatter communications, delivering at least 12 kW output with high gain.

GENERAL CHARACTERISTICS

BASE DESIGNATION	–	BASE PINS	–
NOMINAL HEATER	7.5 V / –	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION1 Klystron
No fixed ratings recorded. Single electrical section; values mapped from printed ratings/characteristics. Klystron represented as SectionType Other because the canonical section vocabulary has no Klystron section type.

The 4KM50SJ is a four-cavity, power amplifier klystron intended primarily for use in tropospheric scatter communications systems. When tuned for maximum efficiency, it produces a minimum output power of 12 kilowatts, at frequencies from 1.7 to 2.4 gigacycles, with a minimum gain of 40 decibels.

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1962 Eimac

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

1962 EIMAC

Section 1 · Klystron

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
The	0 a	The 4KM50S] is a four-cavity, power amplifier klystron intended
The	0 a	The 4KM50S] incorporates a built-in vacuum pump in the form of a
Heater: Voltage (x	7.5 volts	Heater: Voltage (x5%) 7.5 volts
Current	12 amperes	Current - - - - - 4 - < s 12 amperes
Getter: Voltage	4 volts	Getter: Voltage - 4 volts ac
Amperes	24 Amperes	Amperes - 24 amperes ac
Output Power	12 kilowatts	Output Power - - 12 kilowatts
Frequency Range	2.4 gigacycles	Frequency Range 1.7-2.4 gigacycles
Phase sensitivity to beam voltage	0.058 volt	Phase sensitivity to beam voltage - - - - - 0.058 degrees/volt
Current	15 amperes	Current - - - - - 4 - - 15 amperes
BEAM CURRENT (dc) S	3 AMPERES	BEAM CURRENT (dc) S 3 AMPERES
Frequency	2.4 gigacycles	Frequency - - - - - 17 2.4 1.7 2.4 gigacycles
Output Power	10.5 kilowatts	Output Power - - - - - 145 12.3 12.1 10.5 kilowatts
Driving Power	1 watt	Driving Power - - - - - 1 1 1 1 watt
Beam Current	1.8 amperes	Beam Current - - - - - 18 1.8 1.8 1.8 amperes dc
Half Power Bandwidth - - - - - b	12 megacycles	Half Power Bandwidth - - - - - b 8 10 12 megacycles
Electromagnet Current	12.5 amperes	Electromagnet Current - - - - - 125 12.5 12.5 12.5 amperes
SECTION A-A	1 A	SECTION A-A 1.000
uG	3 a	uG43s a/u_ (REE)

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