



ELECTRONIC TUBE REFERENCE

4KM50000LA3

Specialized - Klystron electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION
CONSTRUCTION
KLYSTRON

Four-cavity magnetically focused 400–610 MHz power klystron for UHF television visual, FM, aural-TV, and tropospheric-scatter transmitters.

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

SECTION 1 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 Eimac 4KM50,000LA3 is a four-cavity, magnetically focused, power-amplifier klystron designed for use at frequencies from 400 to 610 megacycles. It is suitable for use in UHF television visual service and may also be used for FM, for aural TV, or for tropospheric-scatter communications service. When adjusted for narrow-band CW operation this klystron will deliver a minimum output power of 10 kilowatts with a power gain of 50 decibels. In television visual service it will provide more than 10 kilowatts of peak synchronizing power with a power gain of 30 decibels. The random AM noise is more than 50 decibels below black level. The 4KM50,000LA3 employs the Eimac Modulating Anode which provides an effective means of protecting the tube from internal arcs when connected to the beam supply through a resistor. All tuning is accomplished outside of the vacuum envelope by means of external resonant cavities which enclose the cylindrical ceramic windows of the klystron. This design affords a wide tuning range and permits external cavity loading for broadband applications. For spares or replacements, only the basic vacuum tube, without cavities, need be purchased. Eimac Klystron Amplifier Circuit Assembly H~143 has been designed for use with the 4KM50,000LA3 to cover the specific

frequencyrange. This assembly includes a klystron supporting structure, magnetic focusing coils, tuning cavities, adjustable load couplers for the sec- ond, third and output cavities and an Eimac SK-110 Air System Socket. CHARACTERISTICS ELECTRICAL

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 Eimac	0 a	The Eimac 4KM50,000LA3 is a four-cavity, magnetically focused,
liver a minimum output power of	50 a	liver a minimum output power of 10 kilowatts with a power gain of 50
kilowatts of peak synchronizing power with a power gain of	30 kilowatts	kilowatts of peak synchronizing power with a power gain of 30 deci-
Heater: Voltage	7.5 volts	Heater: Voltage - - - - 7.5 volts
Current	40 amperes	Current - - - - 40.0 amperes
Maximum Starting Current	80 amperes	Maximum Starting Current - 80.0 amperes
Voltage	2 volts	Voltage - - - - 2.0 volts
Current	36 amperes	Current - - - - 36.0 amperes
Output Power	10 kilowatts	Output Power - - - - 10 kilowatts
Frequency Range (H	610 megacycles	Frequency Range (H-143 Assembly) 400 to 610 megacycles
Output	50 ohm	Output - - - - - 3 1/8 inch, 50-ohm line
(Effective	1961 A	(Effective 10-20-61) Copyright 1961 by Eitel-McCullough, Inc. Printed in U.S.A.
Prefocus-Coil: Voltage	50 volts	Prefocus-Coil: Voltage - - - - 0 to 50 volts
Current	5 amperes	Current - - - - - 0to1.5 amperes
Voltage	500 volts	Voltage - - - - - 0 to 500 volts
Current	2.5 amperes	Current - - - - - 0to?2.5 amperes
D-C BEAM CURRENT	2.5 AMPERES	D-C BEAM CURRENT - - - - 2.5 AMPERES
A-C GETTER CURRENT	50 A	A-C GETTER CURRENT - - - - - 50 AMPERES

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
FOCUS-ELECTRODE VOLTAGE	500 VOLTS	FOCUS-ELECTRODE VOLTAGE - - - -500 VOLTS
Frequency	610 megacycles	Frequency - - - 400 610 megacycles
Output Power	12 kilowatts	Output Power - - - - 13.1 12.0 kilowatts
Driving Power	50 watt	Driving Power - - - - .050 .050 watt
D-C Beam Current	1.8 amperes	D-C Beam Current - - - - 1.8 1.8 amperes
D-C Collector Current	1.72 amperes	D-C Collector Current - - - - 1.71 1.72 amperes
Focus-Electrode Voltage	211 volts	Focus-Electrode Voltage -201 -211 volts
Prefocus Coil	0.97 ampere	Prefocus Coil - - - - 1.0 0.97 ampere
in Series	2 amperes	in Series 2.0 2.0 amperes
____-RF	452 SECOND	____-RF-452 SECOND

TUBE TINKER

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