ELECTRONIC TUBE REFERENCE

4KM100LA

Specialized - Klystron electronic tube

CONSOLIDATED TECHNICAL DATA
1 SECTION
CONSTRUCTION
KLYSTRON

Four-cavity magnetically focused klystron for 470–610 MHz television visual, aural, and tropospheric-scatter service.

General characteristics

BASE DESIGNATION	_	**BASE PINS**	_
NOMINAL HEATER	26 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 Eimac 4KMIOOLA is a four-cavity, magnetically focused, power-amplifier klystron designed for use at frequencies from 470 to 610 megacycles. Intended primarily for tele- vision visual service, it is also suitable for aural TV, or for tropospheric-scatter communications service.

SOURCE OPERATING CONDITIONS

1962 Eimac

SOURCE PDF

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	**4 a**	The Eimac 4KMIOOLA is a four-cavity, magnetically focused, power-amplifier klystron
designed for use at frequencies from	**610 megacycles**	designed for use at frequencies from 470 to 610 megacycles. Intended primarily for tele-
When adjusted for narrow-band CW operation the	**4 a**	When adjusted for narrow-band CW operation the 4KMIOOLA will deliver a minimum out-
put power of	**1 kilowatts**	put power of 35 kilowatts with a power gain of 45 decibels. 1In television visual service
it will provide more than	**25 kilowatts**	it will provide more than 25 kilowatts of peak synchronizing power, with a power gain of
focusing adjustments and produces a very stable beam. The cathode loading of only	**100 a**	focusing adjustments and produces a very stable beam. The cathode loading of only 100
milliamperes per square centimeter, at a beam voltage of	**18 a**	milliamperes per square centimeter, at a beam voltage of 18 kilovolts, is ultra conserva-
The	**4 a**	The 4KM1OOLA incorporates a built-in vacuum pump in the form of a titanium getter.
voltage is	**20 volts**	voltage is 3.7 volts at approximately 20 amperes. When a new tube is first placed in
operation the getter should be flashed for	**4 a**	operation the getter should be flashed for 5 minutes at a voltage of 7.5 volts (+5%4)
which produces a current of approximately	**33 a**	which produces a current of approximately 33 amperes. The getter should also be flashed
Heater: Voltage	**26 volts**	Heater: Voltage - - - 26.0 volts
Current	**11.5 amperes**	Current - - - 11.5 amperes
Maximum Starting Current	**23 amperes**	Maximum Starting Current - 23 amperes
A-C Voltage (*	**3.7 A**	A-C Voltage (*5%) - - 3.7 volts

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
A-C Current	**20 A**	A-C Current - - 20 amperes
A-C Voltage (	**7.5 A**	A-C Voltage (5%) - - 7.5 volts
A-C Current	**33 A**	A-C Current - - 33 amperes
Output Power: Narrow Band	**35 kilowatts**	Output Power: Narrow Band - - 35 kilowatts
Television Visual Service	**25 kilowatts**	Television Visual Service - 25 kilowatts
Frequency Range (H	**610 megacycles**	Frequency Range (H133 Assembly) - 470 to 610 megacycles
Output	**50 ohm**	Output - - - 3-1/8 inch, 50-ohm line
Voltage	**50 volts**	Voltage - - - 0 to 50 volts
Current	**10 amperes**	Current - - - 0 to 10 amperes
D-C BEAM CURRENT	**6 AMPERES**	D-C BEAM CURRENT - - - 6.0 AMPERES
COLLECTOR DISSIPATION	**100 KILOWATTS**	COLLECTOR DISSIPATION - - - 100 KILOWATTS
Frequency	**550 megacycles**	Frequency - 550 550 megacycles
Output Power	**35.4 kilowatts**	Output Power - 26.4 (peak sync.) 35.4 kilowatts
Driving Power	**1 watts**	Driving Power - 20 " " 1.0 watts
D-C Beam Current	**4.54 amperes**	D-C Beam Current - 3.82 4.54 amperes
First Body Coil	**9 amperes**	First Body Coil - 9.0 9.0 amperes
Second Body Coil	**9.2 Second**	Second Body Coil - 9.0 9.2 amperes
Third Body Coil	**9.8 amperes**	Third Body Coil - 8.6 9.8 amperes
Fourth Body Coil	**6 amperes**	Fourth Body Coil - 7.1 6.0 amperes
Collector Coil	**6.3 amperes**	Collector Coil - 3.3 6.3 amperes
o P g	**25 KILOWATTS**	.o P g 5 25 KILOWATTS~w
R = | ‘ i‘ T za]l RF—	**484 SECOND**	R = | ‘ i‘ T za]l RF—484 SECOND
MC	**3 A**	MC-260 BODY coOIL ——| { | !f A L /@/ ' 3 TUNING CAVITY
The Eimac	**0 a**	The Eimac 4KM100LA is a four-cavity, magnetically focused, power-
deliver a minimum output power of	**35 a**	deliver a minimum output power of 35 kilowatts with a power gain of
decibels, and	**8 megacycles**	decibels, and 1db bandwidth of 8 megacycles. Random AM noise is
centimeter, at a beam voltage of	**18 a**	centimeter, at a beam voltage of 18 kilovolts, is ultra conservative
The	**0 a**	The 4KM100LA incorporates a built-in vacuum pump in the form of

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
power is applied. Its normal operating voltage is	**3.7 volts**	power is applied. Its normal operating voltage is 3.7 volts at approx-
imately	**20 amperes**	imately 20 amperes. When a new tube is first placed in operation the
getter should be flashed for	**7.5 a**	getter should be flashed for 5 minutes at a voltage of 7.5 volts (J-FS%)
which produces a current of approximately	**33 a**	which produces a current of approximately 33 amperes. The getter
Heater: Voltage	**26 volts**	Heater: Voltage - - - - 26.0 volts
Current	**11.5 amperes**	Current - - - - 11.5 amperes
Maximum Starting Current	**23 amperes**	Maximum Starting Current 23 amperes
A-C Voltage (¥	**3.7 A**	A-C Voltage (¥5%) - - 3.7 volts
A-C Current	**20 A**	A-C Current - - - 20 amperes
A-C Voltage (¥	**7.5 A**	A-C Voltage (¥5%) - - 7.5 volts
A-C Current	**33 A**	A-C Current - - - 33 amperes
Qutput Power: Narrow Band	**35 kilowatts**	Qutput Power: Narrow Band - - 35 kilowatts
Television Visual Service	**25 kilowatts**	Television Visual Service 25 kilowatts
Frequency Range (H	**610 megacycles**	Frequency Range (H-133 Assembly) 470 to 610 megacycles
(Effective	**1961 A**	(Effective 10-20-61) Copyright 1961 by Eitel-McCullough, Inc. Printed in U.S.A.
Output ~	**50 ohm**	Output ~ - - - - - 3-1/8 inch, 50-ohm line
Voltage	**50 volts**	Voltage - - - - 0 to 50 volts
Current	**10 amperes**	Current - - - - 0 to 10 amperes
D-C BEAM CURRENT	**6 AMPERES**	D-C BEAM CURRENT - - - - 6.0 AMPERES
COLLECTOR DISSIPATION	**100 KILOWATTS**	COLLECTOR DISSIPATION - - - - 100 KILOWATTS
Frequency	**550 megacycles**	Frequency - - 550 550 megacycles
Output Power	**35.4 kilowatts**	Output Power - - 26.4(peak sync.) 35.4 kilowatts
Driving Power	**1 watts**	Driving Power - - 20 " " 1.0 watts
D~C Beam Current	**4.54 amperes**	D~C Beam Current - - 3.82 4.54 amperes
First Body Coil	**9 amperes**	First Body Coil - - 9.0 9.0 amperes
Second Body Coil	**9.2 Second**	Second Body Coil - - 9.0 9.2 amperes
Third Body Coil	**9.8 amperes**	Third Body Coil - - 8.6 9.8 amperes
Fourth Body Coil	**6 amperes**	Fourth Body Coil - - 7.1 6.0 amperes

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Collector Coil	**6.3 amperes**	Collector Coil - - 3.3 6.3 amperes
* Required only if ambient air temperature exceeds	**25 °C**	* Required only if ambient air temperature exceeds 25°C.
A | si.e	**5 A**	A | si.e25
A TYP	**10 A**	A TYP 10 PLAGES “‘j '
DB	**3 DB**	DB 3.000
FITTING———] = /_PENULTIMATE A	**90 A**	FITTING———] = /_PENULTIMATE A 90°
P g	**25 KILOWATTS**	P g 25 KILOWATTS ~w
The Eimac	**0 a**	The Eimac 4KMI100LA is a four-cavity, magnetically focused,
to	**610 megacycles**	to 610 megacycles. Intended primarily for television visual ser-
than	**25 kilowatts**	than 25 kilowatts of peak synchronizing power, with a power gain
of	**8 megacycles**	of 30 decibels, and ldb bandwidth of 8 megacycles. Random AM
square centimeter, at a beam voltage of	**18 a**	square centimeter, at a beam voltage of 18 kilovolts, is ultra
The	**0 a**	The 4KM100LA incorporates a built~in vacuum pump in the form
heater power is applied. Its normal operating voltage is	**3.7 volts**	heater power is applied. Its normal operating voltage is 3.7 volts
at approximately	**20 amperes**	at approximately 20 amperes.
“Heater: DC Voltage	**26 volts**	“Heater: DC Voltage. . . . . 26.0 volts
DCCurrent	**11.5 amperes**	DCCurrent . . .. 11.5 amperes
Maximum Starting Current	**23 amperes**	Maximum Starting Current . . . . . 23 amperes
AC Voltage (	**3.7 volts**	AC Voltage (5% . . .. 3.7 volts
ACCurrent	**20 amperes**	ACCurrent . ... 20 amperes
Television Visual Service	**25 kilowatts**	Television Visual Service. . . . . 25 kilowatts
Frequency Range (H~	**610 megacycles**	Frequency Range (H~163 Assembly) . . .470 to 610 megacycles
(Effective	**1962 A**	(Effective 9-25-62) Copyright 1962 by Eitel-McCullough, Inc. Printed in U.S.A.
Output. . . . . v v s e e e e e e e e e e e e	**50 ohm**	Output. . . . . v v s e e e e e e e e e e e e 3-1/8 inch, 50-ohm line

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Voltage . . . . . oo	**150 volts**	Voltage . . . . . oo 0 to 150 volts
Current . . . . . e e e e e e	**12 amperes**	Current . . . . . e e e e e e 0to 12 amperes
DC BEAM CURRENT . . . . . o	**6 AMPERES**	DC BEAM CURRENT . . . . . o 0 v v v v v o e e v o 6.0 AMPERES
COLLECTOR DISSIPATION . . . . . o o v v v v v v o	**100 KILOWATTS**	COLLECTOR DISSIPATION . . . . . o o v v v v v v v o 100 KILOWATTS
FrequencCy. . . . . v v o v v v v v v v	**550 megacycles**	FrequencCy. . . . . v v o v v v v v v v 0 v 550 megacycles

Tube Tinker

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