



ELECTRONIC TUBE REFERENCE

2C39B

Power - Triode electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

TRIODE

Ceramic-metal UHF transmitting triode for continuous-wave amplifier, oscillator, and pulsed microwave service. Manufacturer data specifies useful CW operation to about 2.5 GHz and pulse applications to roughly 3 GHz, with 100 W plate dissipation.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	—
NOMINAL HEATER	6.3 V / 1.03 A	PARALLEL HEATER	— / —
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION 1 Triode	
TRANSCONDUCTANCE	0.025 S
AMPLIFICATION FACTOR	100
MAXIMUM PLATE VOLTAGE	1000 V
MAXIMUM PLATE DISSIPATION	100 W
MAXIMUM GRID DISSIPATION	2 W
MAXIMUM CATHODE CURRENT	125 mA
<i>Promoted values are taken from the printed ratings on the uploaded source; additional non-promoted values are retained in TUBE_SECTION_PARAMETER.</i>	

The Eimac 2C39B is a ceramic-and-metal UHF transmitting triode useful as a CW amplifier or oscillator to 2500 MHz and in pulse applications to 3000 MHz; it is a unilateral replacement for the 2C39A.



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 · Triode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heating Time	60 s	—
Frequency for Maximum Ratings	2500 MHz	—
Pulse Application Frequency	3000 MHz	—

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-Plate Capacitance	2.01 pF	—
Grid-Cathode Capacitance	6.6 pF	—
Plate-Cathode Capacitance	0.035 pF	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Useful Power Output	27 W	CW amplifier; 500MHz



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1965 Eimac Tube Manual

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

1965 EIMAC TUBE MANUAL

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
The Eimoc [1]	2 W	The Eimoc 2C39B is a ceramic-and-metal UHF transmitting triode with a plate dissipation rating
The Eimoc [2]	9 W	The Eimoc 2C39B is a ceramic-and-metal UHF transmitting triode with a plate dissipation rating
of 100 watts. It is useful as a CW amplifier, or oscillator at frequencies up to	2500 MHz	of 100 watts. It is useful as a CW amplifier, or oscillator at frequencies up to 2500 mc., and in pulse
Transconductance (Plate Current)	70 A	Transconductance (Plate Current 70ma.) -
MAXIMUM ENVELOPE TEMPERATURE = [1]	25	MAXIMUM ENVELOPE TEMPERATURE = 2500°. 2000c.
MAXIMUM ENVELOPE TEMPERATURE = [2]	2	MAXIMUM ENVELOPE TEMPERATURE = 2500°. 2000c.
D-C PLATE VOLTAGE	1000 V	D-C PLATE VOLTAGE - - - - 1000 MAX. VOLTS D-C Grid current - -
D-C CATHODE CURRENT	125 mA	D-C CATHODE CURRENT - - - 125 MAX. MA
D-C GRID VOLTAGE - - - .-t5 [1]	0 V	D-C GRID VOLTAGE - - - .-t50 MAX. VOLTS 3:jev,iud,gp:ow::ro`#ppu',OXJ,-
D-C GRID VOLTAGE - - - .-t5 [2]	3 V	D-C GRID VOLTAGE - - - .-t50 MAX. VOLTS 3:jev,iud,gp:ow::ro`#ppu',OXJ,-
D-c GRID CURRENT - - - •	50	D-c GRID CURRENT - - - • - 50 MAX. MA
GRID VOLTAGE - - - - •	30 V	GRID VOLTAGE - - - - • - 30 MAX. VOLTS
GRID DISSIPATION - - - ,"- •	2 W	GRID DISSIPATION - - - ,"- • - 2 MAX. WATTS Useful power output -
D-C plate voltage	600 V	D-C plate voltage - - - - 600 volts
D-C PLATE VOLTAGE	600 V	D-C PLATE VOLTAGE 600 MAX. VOLTS
D-C GRID VOLTAGE [1]	-150 V	D-C GRID VOLTAGE -150 MAX. VOLTS D-C Grid voltage - - - - -16 volts
D-C GRID VOLTAGE [2]	-16 V	D-C GRID VOLTAGE -150 MAX. VOLTS D-C Grid voltage - - - - -16 volts
D-C GRID CURRENT	50 mA	D-C GRID CURRENT 50 MAX. MA
GRID VOLTAGE	30	GRID VOLTAGE - - 30 MAX. VOLTS D-C Grid current .- - - -

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
GRID VOLT	400 W	GRID VOLT - - 400 MAX. VOLTS Driving power (appTox.)I ---
GRID DISSIP [1]	2 W	GRID DISSIP - - 2 MAX. WATTS Useful carrier power output --- '8 wo,,s
GRID DISSIP [2]	8 W	GRID DISSIP - - 2 MAX. WATTS Useful carrier power output --- '8 wo,,s
exceed	1200 V	exceed 1200 volts. higher d-C Plate voltage mclly be used if the sum of the peak positive modulating voltage and the d-c plate voltage
Moun(ing-The [1]	2 V	Moun(ing-The 2C39B may be operated in any Heat'er Voltage-The maximum rated heater vol-
Moun(ing-The [2]	9 V	Moun(ing-The 2C39B may be operated in any Heat'er Voltage-The maximum rated heater vol-
and in cases of extremely heavy vibrcition or shock peak cathode currents in excess of	3 A	and in cases of extremely heavy vibrcition or shock peak cathode currents in excess of 3.0 omperes.
less than	3	less than 3.0 amperes peak ccithode emission, the
heater voltage can be reduced to	5.6 V	heater voltage can be reduced to 5.6 volts, to pro-
reference points, nor should clamping forces be clp- ±	5 V	reference points, nor should clamping forces be clp- ± 5% of I.he selected operating voltage to main-
ceramic-to-metcll seals used in the [1]	2	ceramic-to-metcll seals used in the 2C39B is 200°C., where the circuit performance starts to deteriorate
ceramic-to-metcll seals used in the [2]	9	ceramic-to-metcll seals used in the 2C39B is 200°C., where the circuit performance starts to deteriorate
ceramic-to-metcll seals used in the [3]	200	ceramic-to-metcll seals used in the 2C39B is 200°C., where the circuit performance starts to deteriorate
peratures below I.he maximum rated value. voltage, but not less thcln	4.5 V	peratures below I.he maximum rated value. voltage, but not less thcln 4.5 volts. In cases where
sipclte loo watts at sea level, with the air at	25	sipclte loo watts at sea level, with the air at 25°C, st.arts, clft.er which the heater voltcige can be re-
is	12.5 V	is 12.5 cubic feet per minute. duced to the selected operating voltage.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
The air flow-rate should be increased at high	800	The air flow-rate should be increased at high 800 volts. Grid-leak resistors should be made
rates in cubic feet per minute at	35000 A	rates in cubic feet per minute at 35,000 feet altitude current to the correct values under changing
I. Tt€ TRUE iNDlcATEo F`uNouT oF TIE ANODE CONTACT D [1]	736	I. Tt€ TRUE iNDlcATEo F`uNouT oF TIE ANODE CONTACT D .736 .826
I. Tt€ TRUE iNDlcATEo F`uNouT oF TIE ANODE CONTACT D [2]	826	I. Tt€ TRUE iNDlcATEo F`uNouT oF TIE ANODE CONTACT D .736 .826
TO THE` CATHODE CONTACT SuflFACE SHALL NOT EXCEED [1]	20	TO THE` CATHODE CONTACT SuflFACE SHALL NOT EXCEED .020. F .086
TO THE` CATHODE CONTACT SuflFACE SHALL NOT EXCEED [2]	86	TO THE` CATHODE CONTACT SuflFACE SHALL NOT EXCEED .020. F .086



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1968 General Electric Co

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

1968 GENERAL ELECTRIC CO

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
HeaterOrFilamentVoltageNominal	6.3 V	—
HeaterOrFilamentCurrentNominal	1.03 A	—
MaxPlateVoltage	600 V	—
MaxPlateDissipation	100 W	—
MaxCathodeCurrent	200 mA	—