



ELECTRONIC TUBE REFERENCE

833A

Power - Triode (over 1000V 100W) electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

TRIODE

Widely used transmitting triode for AM transmitters, modulation, and industrial RF heating. Approximately 450 W plate dissipation and multi-kilovolt capability provide substantial RF power for broadcasting and industrial generator service.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	4
NOMINAL HEATER	10 V / 10 A	PARALLEL HEATER	— / —
HEATING	Direct	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION 1 Triode	
TRANSCONDUCTANCE	0.004 S
AMPLIFICATION FACTOR	35
MAXIMUM PLATE VOLTAGE	4000 V
MAXIMUM PLATE DISSIPATION	450 W
MAXIMUM GRID DISSIPATION	20 W
MAXIMUM CATHODE CURRENT	3 A
Highest published forced-air-cooled maximum values promoted from the maximum-ratings tables.	

Radiation- and forced-air-cooled transmitting triode widely used in AM transmitters and RF heating.



SOURCE OPERATING CONDITIONS

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1945 United Electronics

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

1945 UNITED ELECTRONICS

Section 1 · Triode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Filament voltage	10 V	—
Filament current	10 A	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum direct plate voltage	3000 V	—
Maximum plate dissipation	300 W	—
Maximum direct plate current	500 mA	—



SOURCE OPERATING CONDITIONS

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1950 General Electric Transmitting Types

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1950 GENERAL ELECTRIC TRANSMITTING TYPES

Section 1 · Triode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
HeaterOrFilamentVoltage	10 V	—
HeaterOrFilamentCurrent	10 A	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum Signal Power Output	2700 W	ClassB;TwoTubes;ForcedAirCooling


SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

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1956 RCA Transmitting Tubes

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

1956 RCA TRANSMITTING TUBES

Section 1 · Triode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
HeaterOrFilamentVoltage	10 V	—
HeaterOrFilamentCurrent	10 A	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
MaximumOperatingFrequency	75 MHz	Reduced ratings may apply at upper frequencies
Maximum Signal Power Output	2700 W	ClassB;TwoTubes;ForcedAirCooling


SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

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1958 Amperex Industrial

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1958 AMPEREX INDUSTRIAL

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	4000 V	RFPowerAmplifier;ClassC
Plate current	450 mA	RFPowerAmplifier;ClassC

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Power output	1440 W	RFPowerAmplifier;ClassC
Control-grid voltage	-200 V	RFPowerAmplifier;ClassC
Grid current	75 mA	RFPowerAmplifier;ClassC
Maximum frequency at full input	30 MHz	RFPowerAmplifier

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-to-plate capacitance	6.3 pF	Section1
Grid-to-filament capacitance	12.3 pF	Section1
Plate-to-filament capacitance	8.5 pF	Section1


SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

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1962 ITT

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1962 ITT

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconductance	0.004 A/V	—
Grid-Anode Capacitance	6.3 pF	—
Grid-Filament Capacitance	12.3 pF	—
Anode-Filament Capacitance	8.5 pF	—
RF Frequency Full Rating Maximum	30 MHz	—
RF Reduced Rating Maximum	75 MHz	—
Typical RF Output Power	1000 W	ClassC


SOURCE DATA APPENDIX

1963 Amperex Condensed

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1963 AMPEREX CONDENSED

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	4000 V	RFPowerAmplifier
Plate current	450 mA	RFPowerAmplifier
Power output	1440 W	RFPowerAmplifier
Control-grid voltage	-200 V	RFPowerAmplifier
Grid current	75 mA	RFPowerAmplifier
Maximum frequency at full input	30 MHz	RFPowerAmplifier

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-to-plate capacitance	6.3 pF	Section1
Grid-to-filament capacitance	12.3 pF	Section1
Plate-to-filament capacitance	8.5 pF	Section1



SOURCE DATA APPENDIX

1971 Machlette Laboratories

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

1971 MACHLETTE LABORATORIES

Section 1 · Triode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Amplification factor bogey	35	—

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-plate capacitance bogey	6.3 pF	—
Grid-filament capacitance bogey	12.3 pF	—
Plate-filament capacitance bogey	8.3 pF	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum DC plate voltage	4000 V	—
Maximum plate dissipation	450 W	—



SOURCE OPERATING CONDITIONS

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1971 RCA HB3 Binder 6 of 7

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

1971 RCA HB3 BINDER 6 OF 7

Section 1 · Triode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater/filament voltage nominal	10 V	WholeTube
Heater/filament current nominal	10 A	WholeTube
Grid to filament	12.3 pF	Published source row
Plate to filament	8.5 pF	Published source row
to l imit temperature between these seals to	145	Published source row
No	124	Published source row
No (value 2)	-212	Published source row

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Voltage (AC or DC)	10 %	Published source row

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Voltage (AC or DC) (value 2)	5 %	Published source row
Current at heater volts =	10 V	Published source row
Current at heater volts = (value 2)	10 V	Published source row
DC PLATE VOLTAGE	3000 V	Published source row
DC PLATE VOLTAGE (value 2)	3300 V	Published source row
MAX.-SIGNAL DC PLATE CURRENT*	500 mA	Published source row
MAX.-SIGNAL DC PLATE CURRENT* (value 2)	500 mA	Published source row
MAX.-SIGNAL PLATE INPUT*	1125 W	Published source row
MAX.-SIGNAL PLATE INPUT* (value 2)	1300 W	Published source row
PLATE DISSIPATION*	300 W	Published source row
PLATE DISSIPATION* (value 2)	350 W	Published source row
DC Plate Voltage	3000 V	Published source row
DC Plate Voltage (value 2)	3300 V	Published source row
DC Grid Voltage#	-70 V	Published source row
DC Grid Voltage# (value 2)	-80 V	Published source row
Peak AF Grid-to-Grid Voltage	400 V	Published source row
Peak AF Grid-to-Grid Voltage (value 2)	440 V	Published source row
Zero-Signal DC Plate Current	100 mA	Published source row
Zero-Signal DC Plate Current (value 2)	100 mA	Published source row
Max.-Signal DC Plate Current	750 mA	Published source row
Max.-Signal DC Plate Current (value 2)	780 mA	Published source row
DC PLATE VOLTAGE	4000 V	Published source row
DC PLATE VOLTAGE (value 2)	4000 V	Published source row
MAX.-SIGNAL DC PLATE CURRENT*	500 mA	Published source row
MAX.-SIGNAL DC PLATE CURRENT* (value 2)	500 mA	Published source row
MAX.-SIGNAL PLATE INPUT*	1600 W	Published source row

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
MAX.-SIGNAL PLATE INPUT* (value 2)	1800 W	Published source row
PLATE DISSIPATION*	400 W	Published source row
PLATE DISSIPATION* (value 2)	450 W	Published source row
DC Plate Voltage	4000 V	Published source row
DC Plate Voltage (value 2)	4000 V	Published source row
DC Grid Voltage#	-100 V	Published source row
DC Grid Voltage# (value 2)	-100 V	Published source row
Peak AF Grid-to-Grid Voltage	480 V	Published source row
Peak AF Grid-to-Grid Voltage (value 2)	510 V	Published source row
Zero-Signal DC Plate Current	100 mA	Published source row
Zero-Signal DC Plate Current (value 2)	100 mA	Published source row
Max.-Signal DC Plate Current	800 mA	Published source row
Max.-Signal DC Plate Current (value 2)	900 mA	Published source row
DC PLATE VOLTAGE	3000 V	Published source row
DC PLATE VOLTAGE (value 2)	3300 V	Published source row
DC PLATE CURRENT	300 mA	Published source row
DC PLATE CURRENT (value 2)	300 mA	Published source row
PLATE INPUT	450 W	Published source row
PLATE INPUT (value 2)	525 W	Published source row
PLATE DISSIPATION	300 W	Published source row
PLATE DISSIPATION (value 2)	350 W	Published source row
DC Plate Voltage	3000 V	Published source row
DC Plate Voltage (value 2)	3300 V	Published source row

TUBE TINKER

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