



ELECTRONIC TUBE REFERENCE

7855KAL

Power - Triode electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

TRIODE

High-power triode designed for pulse-modulator service, with manufacturer ratings centered on short-duration high-voltage, high-current pulses rather than continuous RF or audio operation. Its intended role is switching or modulating pulsed power in professional equipment.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	—
NOMINAL HEATER	5.7 V / 950 mA	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	3500 V
MAXIMUM PLATE DISSIPATION	10 W
MAXIMUM GRID DISSIPATION	2 W
MAXIMUM CATHODE CURRENT	125 mA
<i>Promoted maximum ratings/characteristics populated from published headings; service-specific values retained in parameters.</i>	

Airline/high-reliability ceramic/metal planar triode for transponder and pulsed service to 3 GHz.

SOURCE OPERATING CONDITIONS

1962 Eimac

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

1962 EIMAC

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater: Voltage, e e e [1]	57	Heater: Voltage, e e e 57+ 2% V
Heater: Voltage, e e e [2]	2	Heater: Voltage, e e e 57+ 2% V
Current, at [1]	5.7 V	Current, at 5.7 volts v vt v i v e v s e e e . 0.95 A
Current, at [2]	0.95 V	Current, at 5.7 volts v vt v i v e v s e e e . 0.95 A
Amplification Factor (Average) e et ettt et ee	100	Amplification Factor (Average) e et ettt et ee 100
Direct Interelectrode Capacitance (grounded cathode)	2	Direct Interelectrode Capacitance (grounded cathode)2
Plate or Grid-Pulsed et et e e	3000 MHz	Plate or Grid-Pulsed et et e e 3000 MHz
Published value	2	2. Capacitance values are for a cold tube as measured in a special shielded fixture. When the cathode is heated to
the proper temperature, the grid-cathode capacitance will increase from the cold value by approximately	1 pF	the proper temperature, the grid-cathode capacitance will increase from the cold value by approximately 1 pf due
Published value [1]	3	3. Measured with one milliamper plate current and a plate voltage of 1 kVdc.
Published value [2]	1	3. Measured with one milliamper plate current and a plate voltage of 1 kVdc.
Heater: Current at [1]	5.7 V	Heater: Current at 5.7 volts e e e e e 087 1.02 A

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater: Current at [2]	87 V	Heater: Current at 5.7 volts e e e e e 087 1.02 A
Heater: Current at [3]	1.02 V	Heater: Current at 5.7 volts e e e e e 087 1.02 A
Published value	1	1. Capacitance values are for a cold tube as measured in a special shielded fixture.
FreQUeNCY . v v v v o v e ie e e ee v oo	1.09 GHz	FreQUeNCY . v v v v o v e ie e e ee v oo 1.090 GHz
DC PLATE VOLTAGE (grid pulsed) [1]	2500 V	DC PLATE VOLTAGE (grid pulsed). . 2500 VOLTS Heater Voltage 5.7 V
DC PLATE VOLTAGE (grid pulsed) [2]	5.7 V	DC PLATE VOLTAGE (grid pulsed). . 2500 VOLTS Heater Voltage 5.7 V
PEAK PULSE PLATE VOLTAGE DC Plate Voltage	2000	PEAK PULSE PLATE VOLTAGE DC Plate Voltage 2000 vdc
(plate pulsed) nno	3500 V	(plate pulsed) nno... 3500 VOLTS te vortag
DC Grid Voltage	-75	DC Grid Voltage -75 Vdc
DC GRID VOLTAGE . . . v v v v v v v e [1]	-150 V	DC GRID VOLTAGE . . . v v v v v v v e -150 VOLTS Ponk VVideo Plate . 13 A
DC GRID VOLTAGE . . . v v v v v v v e [2]	13 V	DC GRID VOLTAGE . . . v v v v v v v e -150 VOLTS Ponk VVideo Plate . 13 A
Grid negative to cathode [1]	-750 V	Grid negative to cathode -750 VOLTS Peak Video Grid Current -8 a
Grid negative to cathode [2]	-8 V	Grid negative to cathode -750 VOLTS Peak Video Grid Current -8 a
Grid positive to cathode [1]	250 V	Grid positive to cathode 250 VOLTS Useful Power Output (approx.) 750 w
Grid positive to cathode [2]	750 V	Grid positive to cathode 250 VOLTS Useful Power Output (approx.) 750 w
PULSE PLATE CURRENT [1]	3 A	PULSE PLATE CURRENT. 3.0 AMPERES Pulse DUFLION .+ o o v oo e ee e e 0.5 us
PULSE PLATE CURRENT [2]	500 mA	PULSE PLATE CURRENT. 3.0 AMPERES Pulse DUFLION .+ o o v oo e ee e e 0.5 us
PULSE GRID CURRENT [1]	1.8 A	PULSE GRID CURRENT 1.8 AMPERES Duty FACTOr .+« v v v vt ve e ve e e s 0.001
PULSE GRID CURRENT [2]	1 mA	PULSE GRID CURRENT 1.8 AMPERES Duty FACTOr .+« v v v vt ve e ve e e s 0.001
Conduction and convection([1])	7855 W	Conduction and convection(7855KAL) 10 WATTS PLATE PULSED AMPLIFIER

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Conduction and convection([2])	10 W	Conduction and convection(7855KAL) 10 WATTS PLATE PULSED AMPLIFIER
GRID DISSIPATION (Average) [1]	2 W	GRID DISSIPATION (Average). . . . 2.0 WATTS Frequency 1.1 GHz
GRID DISSIPATION (Average) [2]	1.1 W	GRID DISSIPATION (Average). . . . 2.0 WATTS Frequency 1.1 GHz
FREQUENCY [1]	2	FREQUENCY . . . 2 " " " " " " 28 GSHZ Heater Voltage 5.7 V
FREQUENCY [2]	28	FREQUENCY . . . 2 " " " " " " 28 GSHZ Heater Voltage 5.7 V
FREQUENCY [3]	5.7	FREQUENCY . . . 2 " " " " " " 28 GSHZ Heater Voltage 5.7 V
F[;LLJJ"TSYEF%JCRT%E%N " " " " " " [1]	33	F[;LLJJ"TSYEF%JCRT%E%N " " " " " " 0033 Peak Plate Voltage 2000 v
F[;LLJJ"TSYEF%JCRT%E%N " " " " " " [2]	2000	F[;LLJJ"TSYEF%JCRT%E%N " " " " " " 0033 Peak Plate Voltage 2000 v
" " " " " " Peak Video Plate Current	1.8	" " " " " " Peak Video Plate Current 1.8 a
Published value [1]	1	1. Using EIMAC radiator PN 158601. Peak Video Grid Current 1.0 a
Published value [2]	158601	1. Using EIMAC radiator PN 158601. Peak Video Grid Current 1.0 a
Published value [3]	1	1. Using EIMAC radiator PN 158601. Peak Video Grid Current 1.0 a
Published value [1]	2	2. For applications using longer pulse duration and/or Pulse Duration 3.5 ps
Published value [2]	3.5	2. For applications using longer pulse duration and/or Pulse Duration 3.5 ps
higher duty cycle consult the nearest Varian Elec- Duty Factor	0.001	higher duty cycle consult the nearest Varian Elec- Duty Factor 0.001
the designated tube stop are shown in the outline The maximum plate dissipation of the	7855	the designated tube stop are shown in the outline The maximum plate dissipation of the 7855KAL
drawing. Electrical contact to the cathode, grid, is	10 W	drawing. Electrical contact to the cathode, grid, is 10 watts average power. This can be accomp-
Dimensions should never be taken from sample sipation of the [1]	7855	Dimensions should never be taken from sample sipation of the 7855AL in pulse service is 35

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Dimensions should never be taken from sample sipation of the [2]	35	Dimensions should never be taken from sample sipation of the 7855AL in pulse service is 35
to cathode capacitance will be	15	to cathode capacitance will be 15%, or more,



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

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

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-Plate Capacitance	2.5 pF	—
Grid-Cathode Capacitance	6.3 pF	—
Plate-Cathode Capacitance Maximum	0.06 pF	—

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Cathode Heating Time	60 s	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate-Pulsed Peak Supply Voltage	3500 V	PlatePulsed
Peak Plate Current	3 A	Pulse
Frequency Maximum	3 GHz	Pulsed
Plate Dissipation	10 W	CW
Typical RF Useful Output	40 W	Frequency=500MHz



1975 Eimac Tube Manual

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

1975 EIMAC TUBE MANUAL
Section 1 · Triode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Current Range	870 mA–1.02 A	—
Cathode Heating Time	60 s	—
Airline High Reliability Processing	1 boolean	—

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Input Capacitance	6.8 pF	—
Output Capacitance	0.04 pF	—
Grid-Plate Capacitance	2 pF	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Frequency Maximum	3 GHz	—
Pulse Plate Voltage Maximum	3500 V	PlatePulsed
Pulse Current Maximum	4.8 A	PulseModulator
Pulse Duration Maximum	6 us	—
Duty Factor Maximum	0.0033	—



TUBE TINKER
ELECTRON TUBE DATABASE

SOURCE DATA APPENDIX

1976 Eimac Tube Manual

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

1976 EIMAC TUBE MANUAL

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Current Range	870 mA–1.02 A	—
Cathode Heating Time	60 s	—
Airline High Reliability Processing	1 boolean	—

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Input Capacitance	6.8 pF	—
Output Capacitance	0.04 pF	—
Grid-Plate Capacitance	2 pF	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Frequency Maximum	3 GHz	—
Pulse Plate Voltage Maximum	3500 V	PlatePulsed
Pulse Current Maximum	4.8 A	PulseModulator
Pulse Duration Maximum	6 us	—
Duty Factor Maximum	0.0033	—

TUBE TINKER

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and their source documents.

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