

ELECTRONIC TUBE REFERENCE

8796

Power - Triode electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION
CONSTRUCTION
TRIODE

High-power general-purpose transmitting triode capable of substantial continuous RF output for Class C amplifier and oscillator service.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	—
NOMINAL HEATER	16.5 V / 325 A	PARALLEL HEATER	— / —
HEATING	Direct	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION1 Triode	
AMPLIFICATION FACTOR	40
MAXIMUM PLATE VOLTAGE	20000 V
MAXIMUM PLATE DISSIPATION	140000 W
Promoted ratings/characteristics mapped from printed headings; device/service-specific values retained in parameters.	

The ML-8795 and ML-8796 are high-power, general-pur- When operated as class C amplifiers or oscillators, these pose triodes. The ML-8795 is water cooled and the ML-8796 tubes will produce a continuous output of up to 240 kW. The same. The cathodes of these tubes consist of sturdy thoriated- can be operated in air at maximum plate voltage ratings. Maxi- tungsten filaments. The coaxial terminals have low inductance mum ratings apply at frequencies up to 30 MHz; useful and high heat dissipation capability. Low-loss alumina ce- power output can be obtained at higher frequencies with a ramics are used for all envelope insulation members. reduction in plate volrage. Filament Voltage (AC) 165 V

SOURCE OPERATING CONDITIONS

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

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
The ML [1]	8795	The ML-8795 and ML-8796 are high-power, general-pur- When operated as class C amplifiers or oscillators, these
The ML [2]	8796	The ML-8795 and ML-8796 are high-power, general-pur- When operated as class C amplifiers or oscillators, these
pose triodes. The ML [1]	8795 kW	pose triodes. The ML-8795 is water cooled and the ML-8796 tubes will produce a continuous output of up to 240 kW. The
pose triodes. The ML [2]	8796 kW	pose triodes. The ML-8795 is water cooled and the ML-8796 tubes will produce a continuous output of up to 240 kW. The
pose triodes. The ML [3]	240 kW	pose triodes. The ML-8795 is water cooled and the ML-8796 tubes will produce a continuous output of up to 240 kW. The
Filament Voltage (AC)	165	Filament Voltage (AC) 165 V
Filament Current	325	Filament Current 325 A
Filament Starting Current, maximum	800 mA	Filament Starting Current, maximum 800 A
Filament Cold Resistance	52	Filament Cold Resistance 0052 ohm

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Amplification Factor	40	Amplification Factor 40
Maximum water inlet pressure	80 mA	Maximum water inlet pressure 80 psi
Maximum outgoing water temperature	70 mA	Maximum outgoing water temperature 70 °C
Water flow on anode for [1]	140 kW	Water flow on anode for 140 kW dissipation 40 gpm
Water flow on anode for [2]	40 kW	Water flow on anode for 140 kW dissipation 40 gpm
Water jacket pressure drop for [1]	40 gpm	Water jacket pressure drop for 40 gpm flow 25 psi
Water jacket pressure drop for [2]	25 gpm	Water jacket pressure drop for 40 gpm flow 25 psi
Maximum Envelope Temperature	200 mA	Maximum Envelope Temperature 200 °C
WARNING: This electron tube when operating at peak voltages in excess of	15 mA	WARNING: This electron tube when operating at peak voltages in excess of 15 kv may give off x rays, which can be harmful
Small Filament Connector C...oooveveiiiiieie F	27218 mA	Small Filament Connector C...oooveveiiiiieie F- 27218 tion to the removal of power from tubes during fault condi-
DC Plate Voltage ccc.ooeivveiiiiieiecec,	20	DC Plate Voltage ccc.ooeivveiiiiieiecec, 20 kv protection device, refer to the references listed.
DC Grid Voltage coocooovvioeiiiiieiee	-3200	DC Grid Voltage coocooovvioeiiiiieiee —3200 A nominal value of resistance must be placed in the plate
DC Plate Current cocooovviieiiiiieieinc e	20	DC Plate Current cocooovviieiiiiieieinc e 20 lead of the tube being protected in order to be assured that

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid Dissipation oocoiiaiaia i	2500	Grid Dissipation oocoiiaiaia i 2500
Plate Dissipation c.oc.oooiiaiaiaiaiaia	140	Plate Dissipation c.oc.oooiiaiaiaiaiaia 140
DC Grid Voltage cccooeivomiaiaiaiee,	-1200	DC Grid Voltage cccooeivomiaiaiaiee, —1200
Peak RF Plate Voltage ccocooevvrerenaiaieeane	14	Peak RF Plate Voltage ccocooevvrerenaiaieeane 14 kv
Peak RF Grid Voltage coccooviaiaiaiaieeene	1900	Peak RF Grid Voltage coccooviaiaiaiaieeene 1900
DC Grid Current, approximate cccecocvoeeeeeenn	3.5 mA	DC Grid Current, approximate cccecocvoeeeeeenn.. 3.5
RF Load Resistance	410	RF Load Resistance 410 the tube electrodes.
Driving Power, approximate cc.cceeunennn	6500 mA	Driving Power, approximate cc.cceeunennn. 6500
Plate Dissipation cccoeeeviaiaieeieiaieeieens	83	Plate Dissipation cccoeeeviaiaieeieiaieeieens 83
Published value	1	1. W. N. Parker and M. V. Hoover, ""Gas Tubes Protect High Power
e cceeeerr e [1]	240 kW	e cceeeerr e 240 kw 2. H. D. Doolittle, "High Power Hydrogen Thyratrons", Cathode
e cceeeerr e [2]	2 kW	e cceeeerr e 240 kw 2. H. D. Doolittle, "High Power Hydrogen Thyratrons", Cathode
Power Gainl ...oovveiviaiaiaiee e [1]	37	Power Gainl ...oovveiviaiaiaiee e 37 Press, 1, 6, 1954.
Power Gainl ...oovveiviaiaiaiee e [2]	1	Power Gainl ...oovveiviaiaiaiee e 37 Press, 1, 6, 1954.
Power Gainl ...oovveiviaiaiaiee e [3]	6	Power Gainl ...oovveiviaiaiaiee e 37 Press, 1, 6, 1954.
Power Gainl ...oovveiviaiaiaiee e [4]	1954	Power Gainl ...oovveiviaiaiaiee e 37 Press, 1, 6, 1954.
LT U PLATE VOLTAGE ==KILOVOLTS! [1]	0 kV	LT U PLATE VOLTAGE == KILOVOLTS! 0. 0 7]
LT U PLATE VOLTAGE ==KILOVOLTS! [2]	0 kV	LT U PLATE VOLTAGE == KILOVOLTS! 0. 0 7]

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
LT U PLATE VOLTAGE =--KILOVOLTS! [3]	7 kV	LT U PLATE VOLTAGE =-- KILOVOLTS! 0. 0 7]