



ELECTRONIC TUBE REFERENCE

YD1092

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

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

TRIODE

Vapor-cooled low-mu power triode with coaxial grid connection, particularly suited to modulator service with low grid current. Rated for approximately 110 kW plate dissipation and 12.5 kV plate voltage.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	—
NOMINAL HEATER	17 V / 156 A	PARALLEL HEATER	— / —
HEATING	Direct	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION 1 Triode	
TRANSCONDUCTANCE	0.078 S
AMPLIFICATION FACTOR	13.5
MAXIMUM PLATE VOLTAGE	12500 V
MAXIMUM PLATE DISSIPATION	110000 W
MAXIMUM GRID DISSIPATION	1100 W
MAXIMUM CATHODE CURRENT	25 A
<i>Maximum ratings promoted from published rating tables; additional condition-specific values preserved in parameters.</i>	

Vapor-cooled triode with coaxial grid lead-through. Due to the low amplification factor this tube is particularly suitable for use in modulators with low grid current. Emission current at $U_A = U_G = 750 \text{ V}$ $I_{em} 125 \text{ A}$ Amplification factor at $U_A = 4 \text{ to } 10 \text{ kV}$, $I_A = 5 \text{ A}$ $\mu 13,5$

SOURCE OPERATING CONDITIONS

1963 Siemens

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

1963 SIEMENS

Section 1 · Triode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Amplification factor	13.5	—
Transconductance	78000 μ S	—
Emission current at $U_A = U_G = 750$ V	125 A V	—
Amplification factor at $U_A = 10$ kV, $I_A = 5$ A μ 13,5 kV 4	—	—
Transconductance at $U_A = 4$ kV, $I_A = 5$ A	78 mA/V kV	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	17 V V	—
Heater current	≈ 156 A A	—
Frequency	30 MHz MHz	—
Anode voltage (dc)	12,5 kV kV	—
Grid voltage(dc)	— 1200 V V	—
Cathode current (dc)	25 A A	—
Peak cathode current	100 A A	—
Anode dissipation	110 kW kW	—
Grid dissipation	1100 W W	—
Frequency	$\leq 30 \leq 30$ MHz MHz	—
Output power	165 110 kW 1) kW	—
Anode voltage (dc)	10 kV kV	—
Grid voltage (dc)	— 900 — 730 V V	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak control grid voltage (ac)	1300 1100 V V	—
Zero signal anode current (dc)	1,5 1,5 A A	—
Anode current (dc)	18,8 15,3 A A	—
Grid current (dc)	1,6 1,3 A A	—
Anode input power	226 153 kW A	—
Drive power	2,0 1,3 kW 1) kW	—
Anode dissipation	43 kW kW	—
Grid dissipation	600 350 W W	—
Efficiency	72 %	—
Anode load resistance	370 370 Ω Ω	—
Transmitter Triode	2031 V V	—
Frequency	30 MHz MHz	—
Anode voltage (dc)	12,5 kV kV	—
Grid voltage (dc)	— 1500 V V	—
Cathode current (dc)	25 A A	—
Peak cathode current	100 A A	—
Anode dissipation	110 kW kW	—
Grid dissipation	1100 W W	—
Frequency	$\leq 30 \leq 30$ MHz MHz	—
Output power	165 110 kW 1) kW	—
Anode voltage (dc)	10 kV kV	—
Grid voltage (dc)	— 1350 — 1200 V V	—
Peak grid voltage (ac)	1830 1630 V V	—
Anode current (dc)	13,8 A A	—
Grid current (dc)	2,0 1,8 A A	—
Anode input power	204 138 kW A	—
Drive power	3,3 2,7 kW 1) kW	—
Anode dissipation	28 kW kW	—
Grid dissipation	600 500 W W	—
Efficiency	80 %	—
Anode load resistance	370 370 Ω Ω	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transmitter Triode	2031 V V	—
Anode voltage (dc)	12 kV kV	—
Grid voltage (dc)	— 1200 V V	—
Cathode current (dc)	25 A A	—
Peak cathode current	100 A A	—
Anode dissipation	110 kW kW	—
Grid dissipation	1100 W W	—
300	200 kW kW	—
Output power	240 0 160 kW kW	—
Anode voltage (dc)	11 11 11 11 kV kV	—
Grid voltage (dc)	— 810 — 810 — 830 — 830 V V	—
Peak control grid voltage (ac)	2120 0 1980 V V	—
between	2 tubes	—
Anode current (dc)	2 × 1,5 2 × 18 2×1 2 × 11,7 A A	—
Grid current (dc)	2 × 0,6 0 2 × 0,25 A A	—
Peak grid current	2 × 4,3 0 2 × 2,2 A A	—
Anode input power	2 × 16,5 2 × 198 2 × 11 2 × 129 kW A	—
Drive power	2 × 600 0 2 × 180 W W	—
Anode dissipation	2 × 16,5 2 × 78 2 × 11 2 × 49 kW kW	—
Grid dissipation	2 × 120 0 2 × 40 W W	—
Efficiency η —	61 — 62 %	—
Effective load resistance (anode to anode) RAA —	600 — 950 Ω Ω	—
Transmitter Triode	2031 V V	—

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Cathode/grid	≈ 175 pF pF	—
Cathode/anode	≈ 8,0 pF 1) pF	—
Grid/anode	≈ 76 pF pF	—
Transmitter Triode	2031 V V	—

COOLING		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
(PA + PG + 0,8 PF)	114 kW PF	—
Equivalent thermal	6820 kJ/min (1640 kcal/min)	—
at returning water temperature	20 °C approx. 2,7 l/min l/min	—
at returning water temperature	90 °C approx. 3,1 l/min l/min	—
at returning water temperature	20 °C approx. 4,5 m 3/min	—
at returning water temperature	90 °C approx. 5,1 m 3/min	—
Transmitter Triode	2031 V V	—

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