



ELECTRONIC TUBE REFERENCE

RS2051V

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

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

TRIODE

Vapor-cooled Siemens transmitting triode particularly suited to low-grid-current modulator service in transmitters up to roughly 600 kW. Rated for approximately 180 kW plate dissipation and 12 kV plate voltage.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	—
NOMINAL HEATER	17 V / 265 A	PARALLEL HEATER	— / —
HEATING	Direct	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION 1 Triode	
TRANSCONDUCTANCE	0.105 S
AMPLIFICATION FACTOR	15
MAXIMUM PLATE VOLTAGE	12000 V
MAXIMUM PLATE DISSIPATION	180000 W
MAXIMUM GRID DISSIPATION	2500 W
MAXIMUM CATHODE CURRENT	40 A
Maximum ratings promoted from published rating tables; additional condition-specific values preserved in parameters.	

Vapor-cooled triode with coaxial grid lead-through, particularly suitable for modulator operation at low grid current in transmitters up to 600 kW. Emission current at $U_A = U_G = 650$ V I_{em} 160 A Amplification factor at $U_A = 4$ to 10 kV, $I_A = 5$ A μ 15

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

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	15	—
Transconductance	105000 μ S	—
Emission current at $U_A = U_G = 650$ V	160 A V	—
Amplification factor at $U_A = 10$ kV, $I_A = 5$ A μ 15 kV 4	—	—
Transconductance at $U_A = 4$ kV, $I_A = 5$ A	105 mA/V kV	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	17 V V	—
Heater current	$\approx$ 265 A A	—
Anode voltage (dc)	12 kV kV	—
Grid voltage (dc)	— 1500 V V	—
Cathode current (dc)	40 A A	—
Peak cathode current	160 A A	—
Anode dissipation	180 kW kW	—
Grid dissipation	2,5 kW kW	—
600	500 kW kW	—
Output power	420 0 350 kW kW	—
Anode voltage (dc)	11 11 11 11 kV kV	—
Grid voltage (dc)	— 720 — 720 — 740 — 740 V V	—
Peak control grid voltage (ac)	2200 0 2100 V V	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
between	2 tubes	—
Anode current (dc)	2×3 2 × 31,4 2 × 2 2 × 26 A A	—
Grid current (dc)	2 × 1,1 0 2 × 0,9 A A	—
Peak grid current	2×8 0 2×7 A A	—
Anode input power	2 × 33 2 × 345 2 × 22 2 × 286 kW A	—
Drive power	2 × 1050 0 2 × 850 W W	—
Anode dissipation	2 × 33 2 × 135 2 × 22 2 × 111 kW kW	—
Grid dissipation	2 × 280 0 2 × 180 W W	—
Efficiency η –	61 – 61 %	—
Effective load resistance (anode to anode) RAA –	350 – 420 Ω Ω	—
Modulator Triode	2051 V V	—

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Cathode/grid	≈ 260 pF pF	—
Cathode/anode	≈ 14 pF 1) pF	—
Grid/anode	≈ 140 pF pF	—
Modulator Triode	2051 V V	—

COOLING		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
(PA + PG + 0,8 PF)	188 kW PF	—
Equivalent thermal	11300 kJ/min (2700 kcal/min)	—
at returning water temperature	20 °C approx. 4,4 l/min l/min	—
at returning water temperature	90 °C approx. 5,1 l/min l/min	—
at returning water temperature	20 °C approx. 7,3 m 3/min	—
at returning water temperature	90 °C approx. 8,3 m 3/min	—
Modulator Triode	2051 V V	—

An independent reference for electronic tubes, vacuum tubes,
and their source documents.

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