ELECTRONIC TUBE REFERENCE

RS2012CL

Power - Tetrode (NOT beam) electronic tube

CONSOLIDATED TECHNICAL DATA
1 SECTION
CONSTRUCTION
TETRODE

Forced-air-cooled coaxial tetrode for approximately 10 kW-class SSB communications transmitters to 110 MHz.

General characteristics

BASE DESIGNATION	—	**BASE PINS**	—
NOMINAL HEATER	10 V / 83 A	**PARALLEL HEATER**	— / —
HEATING	Direct	**SERIES OPERATION**	Not specified
CATHODE ARRANGEMENT	Separate cathodes	**SECTION CONSTRUCTION**	Similar

Section ratings

SECTION1 Tetrode	
TRANSCONDUCTANCE	0.07 S
AMPLIFICATION FACTOR	8.4
MAXIMUM PLATE VOLTAGE	9000 V
MAXIMUM SCREEN VOLTAGE	1100 V
MAXIMUM SCREEN DISSIPATION	200 W
MAXIMUM GRID DISSIPATION	70 W
MAXIMUM CATHODE CURRENT	6 A

Maximum ratings promoted from published rating tables; additional condition-specific values preserved in parameters.

Coaxial metal-ceramic tetrode for frequencies up to 110 MHz, forced-air-cooled or water-cooled; particularly suitable for single-sideband communications transmitters up to 10 kW with grid-current Forced-air-cooled version Water-cooled version The radiator and the terminals are of concentric design with the following diameters:

SOURCE OPERATING CONDITIONS

1963 Siemens

SOURCE PDF

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

1963 SIEMENS

Section 1 · Tetrode

CHARACTERISTICS

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Amplification factor	**8.4**	—
Transconductance	**70000 µS**	—
Emission current	**35 A A**	—
Amplification factor of screen grid	**8,4**	—
UG2 = 600	**1000 V, V**	—
Transconductance	**70 mA/V mA/V**	—
I A = 2,5	**3,5 A A**	—

OTHER

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	**10 V V**	—
Heater current	**≈ 83 A A**	—
Frequency	**110 MHz MHz**	—
Anode voltage (dc)	**7,5 kV kV**	—
Screen grid voltage (dc)	**1000 V V**	—
Control grid voltage (dc)	**– 250 V V**	—
Cathode current (dc)	**4,0 A A**	—
Peak cathode current	**35 A A**	—
Anode dissipation (RS 2012 CL)	**12 kW kW**	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Anode dissipation (RS 2012 CJ)	**18 kW 5) kW**	—
Screen grid dissipation	**200 W W**	—
Control grid dissipation	**70 W W**	—
Frequency	**≤ 110 50 ≤ 110 MHz MHz**	—
Output power	**11 15+0,26 3) 10,8+0,23 3) kW 1) kW**	—
Anode voltage (dc)	**6,0 9,0 7,0 kV kV**	—
Screen grid voltage (dc)	**800 800 800 V V**	—
Control grid voltage (dc)	**− 120 − 125 − 120 V 4) V**	—
Peak control grid voltage (ac)	**140 140 130 V V**	—
Anode current (dc)	**2,9 2,5 2,3 A A**	—
Screen grid current (dc)	**130 120 120 mA mA**	—
Control grid current (dc)	**70 40 10 mA mA**	—
Anode input power	**17,5 22,7 16 kW A**	—
Drive power	**9,0 2) 6 + 260 3) 1 + 230 3) W 1) W**	—
Anode dissipation	**6,5 7,7 5,2 kW kW**	—
Screen grid dissipation	**104 96 110 W W**	—
Control grid dissipation	**1,0 1,0 0,1 W W**	—
Efficiency	**63 66 68 %**	—
Transmitter Tetrode	**2012 C**	—
Frequency	**30 MHz MHz**	—
Anode voltage (dc)	**6,0 kV kV**	—
Screen grid voltage (dc)	**750 V V**	—
Control grid voltage (dc)	**− 250 V V**	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Cathode current (dc)	**4,0 A A**	—
Peak cathode current	**35 A A**	—
Anode dissipation (RS 2012 CL)	**12 kW kW**	—
Anode dissipation (RS 2012 CJ)	**18 kW 6) kW**	—
Screen grid dissipation	**200 W W**	—
Control grid dissipation	**70 W W**	—
Frequency	**≤ 30 ≤ 30 MHz MHz**	—
Carrier power	**12 6,0 kW 1) kW**	—
Anode voltage (dc)	**6,0 5,0 kV kV**	—
Screen grid voltage (dc)	**700 500 V V**	—
Control grid bias (dc), fixed	**– 90 – 70 V V**	—
Control grid resistance	**500 470 Ω Ω**	—
Control grid voltage (dc)	**– 220 – 150 V V**	—
Peak control grid voltage (ac)	**280 190 V V**	—
Anode current (dc)	**2,4 1,45 A A**	—
Screen grid current (dc)	**200 120 mA mA**	—
Control grid current (dc)	**260 170 mA mA**	—
Anode input power	**14,4 7,3 kW A**	—
Drive power	**64 30 W 1) W**	—
Anode dissipation	**2,4 1,3 kW 2) kW**	—
Screen grid dissipation	**140 60 W W**	—
Control grid dissipation	**7,0 5,0 W W**	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Efficiency	**83 82 %**	—
Anode load resistance	**1,2 1,7 kΩ kΩ**	—
Modulation factor	**100 100 %**	—
Peak screen grid voltage (ac)	**600 350 V 3) V**	—
Modulation power	**7,2 3,7 kW kW**	—
Control grid current (dc)	**400 240 mA 4) mA**	—
Drive power	**100 40 W 1) 4) W**	—
Anode dissipation at modulation	**3,6 2,0 kW 5) kW**	—
Screen grid dissipation at modulation	**170 75 W 5) W**	—
tion the anode dissipation increases	**1,5 times the power dissipation stated for the carrier value.**	—
Transmitter Tetrode	**2012 C**	—
Anode voltage (dc)	**7,0 kV kV**	—
Screen grid voltage (dc)	**1100 V V**	—
Control grid voltage (dc)	**– 200 V V**	—
Cathode current (dc)	**4,0 A A**	—
Peak cathode current	**35 A A**	—
Anode dissipation (RS 2012 CL)	**12 kW kW**	—
Anode dissipation (RS 2012 CJ)	**18 kW 1) kW**	—
Screen grid dissipation	**200 W W**	—
Control grid dissipation	**70 W W**	—
20 kW	**10 kW kW**	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Output power	**0 16 0 8 kW kW**	—
Anode voltage (dc)	**6 6 5 5 kV kV**	—
Screen grid voltage (dc)	**1000 1000 800 800 V V**	—
Control grid voltage (dc)	**− 130 − 130 − 110 − 110 V V**	—
between 2 tubes	**0 220 0 180 V V**	—
Anode current (dc)	**2 × 0,5 2 × 2,4 2 × 0,3 2 × 1,5 A A**	—
Screen grid current (dc)	**0 2 × 90 0 2 × 30 mA mA**	—
Anode input power	**2×3 2 × 14,4 2 × 1,5 2 × 7,5 kW A**	—
Anode dissipation	**2×3 2 × 6,4 2 × 1,5 2 × 3,5 kW kW**	—
Screen grid dissipation	**0 2 × 90 0 2 × 24 W W**	—

CAPACITANCE

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Cathode/control grid	**≈ 76 pF pF**	—
Cathode/screen grid	**≈ 5,50 pF pF**	—
Cathode/anode	**≈ 0,07 pF 1) pF**	—
Control grid/screen grid	**≈ 122 pF pF**	—
Control grid/anode	**≈ 0,75 pF 1) pF**	—
Screen grid/anode	**≈ 22 pF pF**	—
Transmitter Tetrode	**2012 C**	—
Transmitter Tetrode	**2012 C**	—