

Forced-air-cooled coaxial tetrode for television transmitters to approximately 300 MHz.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	—
NOMINAL HEATER	10 V / 86 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	5500 V
MAXIMUM SCREEN VOLTAGE	1000 V
MAXIMUM PLATE DISSIPATION	12000 W
MAXIMUM SCREEN DISSIPATION	150 W
MAXIMUM GRID DISSIPATION	50 W
MAXIMUM CATHODE CURRENT	8 A
Maximum ratings promoted from published rating tables; additional condition-specific values preserved in parameters.	

Coaxial metal-ceramic tetrode for frequencies up to 300 MHz, forced-air-cooled; particularly suit- able for TV transmitters in grounded control-grid screen-grid circuit. The radiator and the terminals are of concentric design with the following diameters: Anode terminal Ø 103,0 Heater/cathode terminal Ø 52,6

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 · Tetrode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Amplification factor	8.4	—
Transconductance	70000 μ S	—
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	≈ 86 A A	—
Frequency	250 MHz MHz	—
Anode voltage (dc)	5,5 kV 1) kV	—
Screen grid voltage (dc)	1000 V 1) V	—
Control grid voltage (dc)	– 250 V V	—
Cathode current (dc)	8,0 A A	—
Peak cathode current	35 A A	—
Anode dissipation	12 kW kW	—
Screen grid dissipation	150 W W	—
Control grid dissipation	50 W W	—
Frequency	220 220 220 MHz MHz	—
Bandwidth (– 3 dB)	12 18 12 MHz 2) MHz	—
Bandwidth (– 1,2 dB)	7,0 10 7,0 MHz 2) MHz	—
Output power, sync. level	16+0,63)) 12+0,53) 12+0,42) kW 4) kW	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
3 8	3 3	—
Output power, black level	9+0,363) 6,6+0,293) 6,6+0,223) kW 4) 5) kW	—
Anode voltage (dc)	5,2 4,0 4,8 kV 1) kV	—
Screen grid voltage (dc)	900 800 800 V 1) V	—
Control grid voltage (dc)	— 85 — 75 — 75 V 6) V	—
sync. level	170 140 130 V V	—
Anode current (dc), black level	3,8 3,7 3,1 A 5) A	—
Screen grid current (dc), black level	120 110 100 mA 5) mA	—
Control grid current (dc), black level	50 60 30 mA 5) mA	—
Anode input power, black level	19,8 14,9 14,9 kW 5) A	—
Drive power, sync. level	46+6303) 30+5303) 10+4203) W 7) W	—
Anode dissipation, black level	10,8 8,3 8,3 kW 5) kW	—
Screen grid dissipation, black level	110 88 80 W 5) W	—
Control grid dissipation, black level	2,0 25 2,0 W 5) W	—
Anode load resistance	570 400 600 Ω Ω	—
Transmitter Tetrode	2022 CL	—
grounded control-grid screen-grid circuit, vision-to-sound	10:1	—
Frequency	250 MHz MHz	—
Anode voltage (dc)	5,5 kV kV	—
Screen grid voltage (dc)	1000 V V	—
Control grid voltage (dc)	— 250 V V	—
Cathode current (dc)	8,0 A A	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak cathode current	35 A A	—
Anode dissipation	12 kW kW	—
Screen grid dissipation	150 W W	—
Control grid dissipation	50 W W	—
Frequency	220 220 MHz MHz	—
Bandwidth	10 10 MHz MHz	—
Output power, sync. level	5,5/0,55 2,2/0,22 kW 1) kW	—
3-tone intermodulation ratio	≥ 58 ≥ 60 dB 2)	—
Anode voltage (dc)	4,7 3,6 kV kV	—
Screen grid voltage (dc)	850 850 V V	—
Control grid voltage (dc)	– 70 – 70 V 3) V	—
Anode current (dc), black level	2,8 2,25 A A	—
Screen grid current (dc), black level	80 0 mA mA	—
Control grid current (dc), black level	20 0 mA mA	—
Anode input power, black level	13,2 8,1 kW A	—
Drive power, sync. level	150 90 W W	—
Drive power, sound	15 9,0 W W	—
Anode dissipation, black level	9,6 6,7 kW kW	—
Anode load resistance	600 500 Ω Ω	—
specification	176 Pfl 2 of the German Telekom , with a a	—
Transmitter Tetrode	2022 CL	—
The	4801 is available for tube operation in TV band III (see accessories).	—
The temperature of the metal-ceramic seals must not	220 °C at any point and the temper-	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
ature of the internal cathode terminal must not	250 °C. These requirements can be met with-	—
gram	25 °C inlet temperature at a normal air pressure of 1 bar (sea level). The cooling air a	—
Transmitter Tetrode	2022 CL	—

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Cathode/control grid	≈ 76 pF pF	—
Cathode/screen grid	≈ 5,5 pF pF	—
Cathode/anode	≈ 0,07 pF 1) pF	—
Control grid/screen grid	≈ 126 pF pF	—
Control grid/anode	≈ 0,75 pF 1) pF	—
Screen grid/anode	≈ 21 pF pF	—
Cavity band III,	10 kW vision TK4801 Q94-X4801 kW	—
Transmitter Tetrode	2022 CL	—

COOLING		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transmitter Tetrode	2022 CL	—

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