



ELECTRONIC TUBE REFERENCE

TBW620

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

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

TRIODE

Philips water-cooled coaxial power triode for AM, FM, and television transmitters. With about 12 kW dissipation and high transconductance, it provides strong current capability for professional broadcast RF stages.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	—
NOMINAL HEATER	6.3 V / 154 A	PARALLEL HEATER	— / —
HEATING	Direct	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION 1 Triode	
PLATE RESISTANCE	1000 Ω
TRANSCONDUCTANCE	0.06 S
AMPLIFICATION FACTOR	60
MAXIMUM PLATE VOLTAGE	5500 V
MAXIMUM PLATE DISSIPATION	12000 W
MAXIMUM CATHODE CURRENT	6 A
<i>Published filament data, capacitances, typical characteristics, limiting values and RF operating conditions reviewed.</i>	

TBW620 is a Philips water-cooled coaxial transmitting triode for AM, FM and television transmitters. Its datasheet specifies direct-filament operation, RF power ratings, cooling requirements, capacitances and representative operating conditions.

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1963 Philips Electron Tubes Handbook V4

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

1963 PHILIPS ELECTRON TUBES HANDBOOK V4

Section 1 · Triode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Filament voltage	6.3 V	DirectlyHeated
Filament current	154 A	DirectlyHeated
Amplification factor	60	Published
Transconductance	60000 μ S	Published

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum plate voltage	5500 V	Published limit
Maximum plate dissipation	12000 W	Published limit
Maximum operating frequency	220 MHz	RFService
Maximum starting filament current	500 A	FilamentStarting
Plate voltage	5000 V	48-88 MHz
Plate voltage	4000 V	170-220 MHz
Plate input power	25 kW	48-88 MHz
Plate input power	22 kW	170-220 MHz
Plate dissipation	12 kW	Published cooling limit

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate-to-cathode capacitance	0.6 pF	Published
Grid capacitance	65 pF	Published
Grid-to-plate capacitance	29 pF	Published

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1999 Philips E-Z

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

1999 PHILIPS E-Z

Section 1 · Triode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater/filament voltage	6.3 V	—
Heater/filament current	154 A	—
Transconductance	60000 μ S	—
Amplification factor	60	—
Plate resistance	1000 ohm	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum plate voltage	5500 V	—
Maximum plate dissipation	12000 W	—
Maximum cathode current	6 A	—
Operating plate voltage	5000 V	GroundedGrid;ClassC;110MHz
Operating plate current	4.8 A	GroundedGrid;ClassC;110MHz
Output power	15400 W	GroundedGrid;ClassC;110MHz
Maximum anode input power	30000 W	—

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate/anode capacitance	0.6 pF	—
Grid capacitance	65 pF	—
Plate-grid capacitance	29 pF	—

TUBE TINKER

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and their source documents.

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