



ELECTRONIC TUBE REFERENCE

4690

Specialized - Switching Tube electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

THYRATRON

Philips 4690 helium-filled indirectly heated thyatron for relaxation oscillators and time-base switching, with 4 V 1.3 A heater, 500 V peak anode rating and P30-X base.

GENERAL CHARACTERISTICS

BASE DESIGNATION	P30-X	BASE PINS	—
NOMINAL HEATER	4 V / 1.3 A	PARALLEL HEATER	— / —
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION 1 Thyatron	
MAXIMUM PLATE VOLTAGE	500 V
MAXIMUM CATHODE CURRENT	10 mA
<i>Philips 4690 helium-filled grid-controlled thyatron. Oscillator/time-base maximum PEAK anode 500 V, peak anode current 750 mA, maximum peak anode-grid voltage 600 V, mean anode current in oscillating condition max 10 mA, arc voltage ~50 V, frequency max 150 kHz, grid resistor max 0.5 MΩ and min 1000 Ω per volt peak grid voltage, control ratio 35 (1948) or 40 (1938). Capacitances Cga 3.7 pF, Cak 2.0 pF, Cgk 3.7 pF. Rectifier operation with grid tied cathode has DIFFERENT limits: anode voltage max 350 V, anode current max 75 mA. Heater 4.0 V 1.3 A, indirectly heated; P30-X base. Max_plate_voltage 500 V is peak oscillator rating, not continuous DC.</i>	

The Philips 4690 is a helium-filled gas triode for controlled switching service.

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1938 Philips Miniwatt Vacuum Tube Catalog

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

1938 PHILIPS MINIWATT VACUUM TUBE CATALOG

Section 1 · Thyatron

CONSTRUCTION		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Gas filling	Helium	Section1

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-to-anode capacitance	3.7 pF	Section1
Anode-to-cathode capacitance	2 pF	Section1
Grid-to-cathode capacitance	3.7 pF	Section1

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Arc extinction voltage	50 V	Approximate
Minimum grid-circuit resistance per volt peak grid voltage	1000 Ω	TimeBase
Striking-voltage to grid-voltage ratio	40	TimeBase

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum peak voltage between electrodes	600 V	TimeBase
Maximum peak anode voltage	500 V	TimeBase
Maximum peak anode current	750 mA	TimeBase
Maximum mean anode current	10 mA	OscillatingCondition

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum grid-circuit resistance	0.5 MΩ	TimeBase
Maximum filament-to-cathode voltage	100 V	CathodePositive
Maximum attainable frequency	150000 Hz	TimeBase


SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

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1957 Philips Receiving and Amplifying Tubes

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

1957 PHILIPS RECEIVING AND AMPLIFYING TUBES

Section 1 · Thyatron

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Arc Voltage	50 V	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak Anode Voltage	500 V	—
Peak Anode Current	750 mA	—
Average Anode Current	10 mA	—


SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

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1999 Philips 0-D

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1999 PHILIPS 0-D

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Gas filling	Helium	—
Peak voltage anode-grid	600 V	—
Mean anode current oscillating	10 mA	—
Maximum frequency	150 kHz	—
Rectifier plate voltage max	350 V	RectifierService
Rectifier plate current max	75 mA	RectifierService

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Anode-cathode capacitance	7 pF	—

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Control ratio	35	—