

ELECTRONIC TUBE REFERENCE

5949

Specialized - Thyatron electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION
CONSTRUCTION
THYRATRON

Hydrogen-filled zero-bias pulse thyatron for high-power radar modulators. Fast gas discharge provides high-current, high-voltage pulse switching.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	—
NOMINAL HEATER	6.3 V / 18.5 A	PARALLEL HEATER	— / —
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION 1 Thyatron	
MAXIMUM PLATE VOLTAGE	25000 V
MAXIMUM CATHODE CURRENT	500 A
Thyatron pulse ratings promoted where semantically compatible; trigger, delay, jitter, reservoir and current-rate data retained as parameters.	

The 5949 is a three-electrode hydrogen-filled zero-bias thyatron intended for high-power, high-voltage radar modulator service, with an internal hydrogen reservoir and pulse capability around 6.25 MW.

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1961 Tung Sol

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

1961 TUNG SOL

Section 1 · Thyatron

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak Anode Voltage Forward	25 kV	—
Peak Cathode Current	500 A	PulseService
PulsePower	6.25 MW	RadarModulator

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1962 ITT

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

1962 ITT

Section 1 · Thyatron

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater current	15 A–22 A	—
Heater voltage nominal	6.3 V	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Minimum heating time	15 min	—
Maximum peak forward anode voltage	25000 V	—
Maximum peak inverse anode voltage	25000 V	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum peak anode current	500 A	—
Maximum average anode current	500 mA	—
Maximum RMS anode current	15.8 A	—
Maximum anode current rate of rise	2500 A/us	—
Maximum peak inverse trigger voltage	650 V	—
Maximum anode delay time	1 us	—
Maximum anode delay-time drift	0.25 us	—
Initial maximum time jitter	0.01 us	—



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

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1966 Tung Sol Electronic Tubes 4 of 4

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1966 TUNG SOL ELECTRONIC TUBES 4 OF 4

Section 1 · Thyatron

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak forward anode voltage	25 kV	PulseService
Peak inverse anode voltage	25 kV	PulseService
Peak cathode current	500 A	PulseService
Average cathode current	500 mA	PulseService
RMS cathode current	16 A	PulseService
Peak grid voltage	1500 V	PulseService
Current rate of rise	250 A/us	PulseService
Anode delay time	1 us	PulseService

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater current bogey	18.5 A	WholeTube

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Cathode heating time minimum	15 min	WholeTube
Hydrogen reservoir present	TRUE	WholeTube
Pulse power capability	6.25 MW	RadarModulator


SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

1982 Toshiba

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

1982 TOSHIBA

Section 1 · Thyatron

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak Anode Current	500 A	—
Average Anode Current	500 mA	—
Minimum DC Supply Voltage	5000 V	—
Maximum Rate of Rise of Anode Current	2500 A/us	—
Pulse Repetition Rate	2000 pps	—
Pulse Duration	6 us	—


SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

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1999 Philips 0-D

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

1999 PHILIPS 0-D

Section 1 · Thyatron

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak anode current	500 A	Maximum

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Average anode current	500 mA	Maximum
Grid peak voltage	1000 V	Maximum
Current rise rate	2500 A/us	Maximum
Anode time jitter	0.01 us	Maximum

TUBE TINKER

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and their source documents.

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