



ELECTRONIC TUBE REFERENCE

5685

Specialized - Thyatron electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION
CONSTRUCTION
THYRATRON

Gas-filled high-current thyatron triode for applications requiring precise control. Its heavy filament supports substantial grid-triggered power switching.

GENERAL CHARACTERISTICS

BASE DESIGNATION	4BZ	BASE PINS	4
NOMINAL HEATER	2.5 V / 21 A	PARALLEL HEATER	– / –
HEATING	Direct	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION1 Thyatron	
MAXIMUM PLATE VOLTAGE	1000 V
MAXIMUM CATHODE CURRENT	77 A
PEAK INVERSE VOLTAGE	1250 V
NOMINAL OUTPUT CURRENT	6.4 A
PEAK FORWARD CURRENT	100 A
FORWARD VOLTAGE DROP	14 V
WARM-UP TIME	60 s
Xenon thyatron; applicable rectifier-like conduction ratings promoted from the published specification.	

Gas-filled high-current thyatron triode for applications requiring precise control.



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1942 Electronics Inc

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

1942 ELECTRONICS INC

Section 1 · Thyatron

CHARACTERISTICS

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Average tube voltage drop	9 V	Published datasheet value

OTHER

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak inverse voltage	1250 V	Published maximum instantaneous rating



SOURCE OPERATING CONDITIONS

1955 Vacuum Tube Products

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

1955 VACUUM TUBE PRODUCTS

Section 1 · Thyatron

CHARACTERISTIC

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Current	17 A–23 A	—
Operating Temperature	-55–75 C	—
Tube Voltage Drop	14 V	Anode current=6.4A
Peak Emission Voltage Drop	45 V	Anode current=100A
Critical Grid Voltage	-7.5--3 V	Anode=1000V
Critical Anode Voltage	75 V	Grid=+3V; conduction below this value

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Rated Anode Current Continuous	6.4 A	—
Rated Anode Current Average	6.4 A	—
Rated Anode Current 15-Second	12.8 A	15s on / 15s off
Peak Anode Current	100 A	Continuously oscillographically recorded
Peak Forward Voltage	1000 V	—
Peak Inverse Voltage	1250 V	—



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

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1958 Amperex Industrial

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

1958 AMPEREX INDUSTRIAL

Section 1 · Thyatron

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater/filament voltage	2.5 V	Published rating
Heater/filament current	21 A	Published rating
Filament heating time	60 s	XenonThyatron
Tube voltage drop	9 V	XenonThyatron
Deionization time	1000 us	XenonThyatron

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum peak forward voltage	750 V	XenonThyatron
Maximum peak inverse voltage	1250 V	XenonThyatron
Maximum peak anode current	12.8 A	XenonThyatron
Maximum average anode current	6.4 A	XenonThyatron
Maximum grid voltage	-100 V	XenonThyatron



SOURCE OPERATING CONDITIONS

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1963 Amperex Condensed

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

1963 AMPEREX CONDENSED

Section 1 · Thyatron

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater or filament voltage	2.5 V	Section1
Heater or filament current	21 A	Section1
Peak forward voltage maximum	1000 V	Thyatron
Peak inverse voltage maximum	1250 V	Thyatron
Peak anode current maximum	77 A	Thyatron
Average anode current maximum	6.4 A	Thyatron
Maximum grid voltage	-100 V	Thyatron

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Filament heating time	60 s	Thyatron
Tube voltage drop	9 V	Thyatron
Deionization time	1000 μ s	Thyatron



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1971 RCA HB3 Binder 2 of 7

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

1971 RCA HB3 BINDER 2 OF 7

Section 1 · Thyatron

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Filament voltage	2.5 V	Nominal
Filament current	21 A	Nominal
Maximum deionization time	1000 us	—
Maximum critical grid current	10 uA	—
Maximum anode voltage drop at end of life	12 V	—
Maximum commutation factor	0.66 VA/us ²	—
Peak forward anode voltage	1000 V	—
Peak inverse anode voltage	1250 V	—
Peak negative grid voltage before conduction	100 V	—
Peak anode/cathode current	77 A	—
Average anode/cathode current	6.4 A	—
Fault current	770 A	Short-duration fault rating
Ambient or condensed-mercury operating temperature range	-55 to +75 C	—

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Minimum heating time prior to tube conduction	60 s	—
Anode voltage drop at beginning of life	9 V	—
Grid control ratio	210	Approximate; stated grid-resistor and DC conditions

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-to-anode capacitance	4 pF	Approximate
Grid-to-cathode capacitance	21 pF	Approximate