



ELECTRONIC TUBE REFERENCE

393A

Specialized - Thyatron electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

THYRATRON

Gas-filled grid-controlled thyatron for switching, controlled-rectifier, relay, motor-control, oscillator, or pulse service as documented by the manufacturer.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	7
NOMINAL HEATER	2.5 V / 7 A	PARALLEL HEATER	— / —
HEATING	Direct	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION 1 Thyatron	
MAXIMUM PLATE VOLTAGE	1250 V
MAXIMUM CATHODE CURRENT	1.5 A
FORWARD VOLTAGE DROP	10 V
WARM-UP TIME	15 s
<i>Three-electrode thyatron; SectionType=Other because Thyatron is not a canonical SectionType. MaxPlateVoltage uses published peak anode voltage; MaxCathodeCurrent uses maximum average cathode current.</i>	

The 393A is a three-electrode argon and mercury-vapor thyatron with a negative-control characteristic, intended for grid-controlled rectifier, motor-control, and relay applications.



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1956 Western Electric Tubes

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

1956 WESTERN ELECTRIC TUBES

Section 1 · Thyatron

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
HeaterOrFilamentVoltage	2.5 V	—
HeaterOrFilamentCurrent	7 A	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak Anode Current	5 A	—
OperatingTemperatureMinimum	-40 C	—
OperatingTemperatureMaximum	80 C	—



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

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Filament voltage	2.5 V	—
Filament current	7 A	—
Cathode heating time minimum	15 s	—
Anode voltage drop initial	10 V	—

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Anode to control grid capacitance	1.8 pF	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak forward anode voltage	1250 V	—
Peak reverse anode voltage	1250 V	—
Fault anode current	120 A	0.1SecondMax


SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1966 Tung Sol Electronic Tubes 3 of 4

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

1966 TUNG SOL ELECTRONIC TUBES 3 OF 4

Section 1 · Thyatron

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak forward anode voltage	1250 V	ThyatronService
Peak reverse anode voltage	1250 V	ThyatronService
Peak anode current	6 A	ThyatronService
Average anode current	1.5 A	ThyatronService
Fault anode current	120 A	ThyatronService
Maximum plate voltage	1250 V	PromotedValue
Maximum cathode current	1.5 A	PromotedValue
Forward	1250 V	PublishedTable
Reverse	1250 V	PublishedTable
Peak Or Dc Before Tube Conduction	-500 V	PublishedTable
Average During Tube Conduction --Note 1	-10 V	PublishedTable
Peak	6 A	PublishedTable

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Average -Note 2	1.5 A	PublishedTable
Fault-For Duration Of 0.1 Sec. Max. -Note 3	120 A	PublishedTable
Filament Voltage 2.37	2.63 V	PublishedTable

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Cathode heating time minimum	15 s	ThyratronService
Anode voltage drop initial	10 V	ThyratronService
Anode voltage drop end of life	20 V	ThyratronService
De-ionization time	360 us	ThyratronService
Rectifier forward voltage drop	10 V	PromotedValue
Rectifier warmup time	15 s	PromotedValue
2 .6±0.125 Volts	7 A	PublishedTable
Filament Current @ Ef =2.6 Volts	7 A	PublishedTable
Cathode Heating Time - Minimum	15 s	PublishedTable
Anode Volts = 120 Anode Current =	1.6 A	PublishedTable
Initial	10 V	PublishedTable
End Of Life	20 V	PublishedTable

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Anode-to-control-grid capacitance	1.8 pF	—



SOURCE DATA APPENDIX

2026 Western Electric 300s

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

2026 WESTERN ELECTRIC 300S
Section 1 · Thyatron

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak Cathode Current	6 A	—
CathodeSurgeCurrent	120 A	Maximum duration 0.1 s
NegativeGridVoltageBeforeConduction	500 V	—
NegativeGridVoltageDuringConduction	10 V	—
PositiveGridCurrentAverage	10 mA	Averaging time one cycle
Anode Grid Capacitance	1.8 pF	Bogey
GridFilamentCapacitance	5.6 pF	Bogey
CondensedMercuryTemperature	-55–80 degC	—

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Anode Voltage Drop	15 V	Bogey
RequiredFilamentHeatingTime	15 s	—

TUBE TINKER

An independent reference for electronic tubes, vacuum tubes, and their source documents.

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