

ELECTRONIC TUBE REFERENCE

105

Specialized - Thyatron electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION
CONSTRUCTION
THYRATRON

Mercury-vapor tetrode thyatron for high-current grid-controlled switching. Its control grid triggers low-drop gas conduction for industrial power control.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	4
NOMINAL HEATER	5 V / 10 A	PARALLEL HEATER	— / —
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION 1 Thyatron	
MAXIMUM PLATE VOLTAGE	1000 V
MAXIMUM CATHODE CURRENT	6.4 A
Published maximum ratings and device-specific characteristics are promoted where schema-compatible; remaining switching/gauge/regulator electrical data is retained in section parameters.	

Mercury-vapor tetrode thyatron for high-current grid-controlled switching service. The supplied RCA datasheet was reviewed for published ratings, electrical characteristics, operating conditions, timing/capacitance data, and application-specific limits.

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

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Voltage* – published value 1	5 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
Voltage* – published value 2	5 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
Voltage* – published value 3	5.5 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
Voltage* – published value 4	5 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
Current – published value 1	0 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
Current – published value 2	0 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
Current – published value 3	11 A	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
Current – published value 4	10 A	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
Peak Voltage Drop (Approx.) – published value 1	16 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
Peak Voltage Drop (Approx.) – published value 2	16 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak Voltage Drop (Approx.) – published value 3	16 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
Peak Voltage Drop (Approx.) – published value 4	16 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
Anode Voltage – published value 1	100 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
Anode Voltage – published value 2	1000 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
Anode Voltage – published value 3	100 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
Grid-No.2 Voltage – published value 1	0 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
Grid-No.2 Voltage – published value 2	0 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
Grid-No.2 Voltage – published value 3	0 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
Grid-No.2 Voltage – published value 4	0 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
Grid-No.1 Voltage – published value 1	1 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
Grid-No.1 Voltage – published value 2	-9 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
Grid-No.1 Voltage – published value 3	-9 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
Ionisation Time (Approx.) – published value 1	10 s	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
Ionisation Time (Approx.) – published value 2	10 s	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Ionisation Time (Approx.) – published value 3	10 s	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
Ionisation Time (Approx.) – published value 4	10 s	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
Deionization Time (Approx.) – published value 1	1000 s	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
Deionization Time (Approx.) – published value 2	100 s	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
Deionization Time (Approx.) – published value 3	1000 s	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
PEAK FORWARD ANODE VOLT – published value 1	2500 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
PEAK FORWARD ANODE VOLT – published value 2	750 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
PEAK FORWARD ANODE VOLT – published value 3	10000 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
GRID-No.2 (BREED GRID) VOLT	2 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
AVERAGE ANODE CURRENT – published value 1	6.4	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
AVERAGE ANODE CURRENT – published value 2	2.5	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
AVERAGE ANODE CURRENT – published value 3	4	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
# Must be applied 5 minutes before anode voltage is applied	5 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
CONDENSED H ₂ TEMPERATURE 40~C	40	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
SHIELD-GRID VOLTAGE ZERO	2 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
D-C GRID VOLTAGE AT START of gCHARGE HJ VOLTS 9205-6702 – published value 1	9205 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
D-C GRID VOLTAGE AT START of gCHARGE HJ VOLTS 9205-6702 – published value 2	-6702 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
Heater or filament voltage nominal	5 V	Nominal value from supplied datasheet.
Heater or filament current nominal	10 A	Nominal or average value from supplied datasheet.

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
PEAK INVERSE ANODE VOLT – published value 1	2500 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
PEAK INVERSE ANODE VOLT – published value 2	750 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
PEAK INVERSE ANODE VOLT – published value 3	10000 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
Before Conduction – published value 1	-1000 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
Before Conduction – published value 2	-1000 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
Before Conduction – published value 3	-1000 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
During Conduction – published value 1	-10 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
During Conduction – published value 2	-10 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
During Conduction – published value 3	-10 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Before Conduction – published value 1	-500 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
Before Conduction – published value 2	-500 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
Before Conduction – published value 3	-500 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
Below 25 Cycles – published value 1	25 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
Below 25 Cycles – published value 2	12 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
Below 25 Cycles – published value 3	5 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
Below 25 Cycles – published value 4	8 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
25 Cycles and Higher – published value 1	25 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
25 Cycles and Higher – published value 2	40 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
25 Cycles and Higher – published value 3	77 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
25 Cycles and Higher – published value 4	16 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
INSTP.NTANDOUS GRID-No.1 CUR. 1.0 – published value 1	1 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
INSTP.NTANDOUS GRID-No.1 CUR. 1.0 – published value 2	1 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
INSTP.NTANDOUS GRID-No.1 CUR. 1.0 – published value 3	1 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
AVERAGE GgID-No.1 CUR – published value 1	0.25 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
AVERAGE GgID-No.1 CUR – published value 2	0.25 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
AVERAGE GgID-No.1 CUR – published value 3	25 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
INSTANTANEOUS GRID-No.2 CUR. 2.0 – published value 1	2 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
INSTANTANEOUS GRID-No.2 CUR. 2.0 – published value 2	2 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
INSTANTANEOUS GRID-No.2 CUR. 2.0 – published value 3	2 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
INSTANTANEOUS GRID-No.2 CUR. 2.0 – published value 4	2 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
TIME OF AVERAGING CURRENT – published value 1	15 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
TIME OF AVERAGING CURRENT – published value 2	5 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
TIME OF AVERAGING CURRENT – published value 3	15 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.

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