

ELECTRONIC TUBE REFERENCE

7021

Specialized - Thyatron electronic tube

CONSOLIDATED TECHNICAL DATA
1 SECTION
CONSTRUCTION
THYRATRON

Mercury-vapor negative-control thyatron for grid-controlled rectifier service. Its heavy filament and low-drop discharge support substantial industrial power control.

GENERAL CHARACTERISTICS

BASE DESIGNATION	3G	BASE PINS	4
NOMINAL HEATER	2.5 V / 5.5 A	PARALLEL HEATER	– / –
HEATING	Direct	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

3G - TERMINAL PINOUT

TERMINAL	SECTION	ELEMENT	STATUS
PIN1 – Pin 1	–	F – Filament	CONNECTED
PIN3 – Pin 3	A	G1 – Control Grid	CONNECTED
PIN4 – Pin 4	–	F – Filament	CONNECTED
CAP1 – Top cap	A	P – Plate (Anode)	CONNECTED

SECTION RATINGS

SECTION1 Thyatron	
MAXIMUM PLATE VOLTAGE	1250 V
MAXIMUM CATHODE CURRENT	1 A
FORWARD VOLTAGE DROP	15 V
Gas/mercury-filled grid-controlled rectifier (thyatron).	

RCA 714/7021 is a directly heated gas-and-mercury-vapor negative-control thyatron intended for grid-controlled rectifier service, with 1250-V peak forward and inverse anode ratings and ampere-level current capability.

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1957 National Electronics

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

1957 NATIONAL ELECTRONICS

Section 1 · Thyatron

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum DC output current	1 A	—
Maximum instantaneous output current	3 A	—
Maximum peak inverse voltage	1250 V	—
Maximum peak forward voltage	1250 V	—
Maximum negative grid voltage before conduction	500 V	—

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Filament heating time	5 s	—
Typical arc drop	15 V	—

CONSTRUCTION		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Filling	Argon/mercury vapor	—

APPLICATION		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Service	Industrial grid-controlled rectifier	—
Service	Timing/control	—

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Anode-grid capacitance	2 pF	—

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	5 A	Nominal
Maximum deionization time	1000 us	—
Maximum critical grid current	5 uA	—
Peak forward anode voltage	1250 V	—
Peak inverse anode voltage	1250 V	—
Peak negative grid voltage before conduction	500 V	—
Peak negative grid voltage during conduction	10 V	—
Peak anode/cathode current	3 A	—
Average anode/cathode current	1 A	—
Fault current	50 A	Short-duration fault rating
Ambient or condensed-mercury operating temperature range	+40 to +80 condensed-mercury operating range C	

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Minimum heating time prior to tube conduction	5 s	—
Ionization time	10 us	Approximate
Anode voltage drop	15 V	—

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-to-anode capacitance	2 pF	Approximate