

ELECTRONIC TUBE REFERENCE

5823

Specialized - Switching Tube electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

THYRATRON

Industrial cold-cathode glow-discharge triode for relay-control service in low-current on/off circuits. It provides heaterless electronic switching.

GENERAL CHARACTERISTICS

BASE DESIGNATION	4CK	BASE PINS	7
NOMINAL HEATER	– / –	PARALLEL HEATER	– / –
HEATING	Indirect; cold cathode	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

4CK - TERMINAL PINOUT

TERMINAL	SECTION	ELEMENT	STATUS
PIN1 – P	A	P – Plate (Anode)	CONNECTED
PIN2 – IC	–	–	IC
PIN3 – K	A	K – Cathode	CONNECTED
PIN4 – G1	A	G1 – Control Grid	CONNECTED
PIN5 – IC	–	–	IC
PIN6 – IC	–	–	IC
PIN7 – K	A	K – Cathode	CONNECTED

SECTION RATINGS

SECTION1 Thyatron	
MAXIMUM PLATE VOLTAGE	200 V
MAXIMUM CATHODE CURRENT	25 mA
FORWARD VOLTAGE DROP	62 V
<i>Cold-cathode glow-discharge switching triode; trigger/breakdown data in parameters.</i>	

Industrial cold-cathode glow-discharge triode for relay-control service in low-current on/off circuits.
 Extracted from the supplied RCA Receiving Tube Manual excerpt.



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1940 RCA

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

1940 RCA

Section 1 · Thyatron

APPLICATION		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Application	RelayControl text	—



SOURCE OPERATING CONDITIONS

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1950 Sylvania

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1950 SYLVANIA

Section 1 · Thyatron

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum Plate Voltage	200 V	—
Maximum Cathode Current	25 mA	—
Peak Cathode Current	100 mA	—
Average Cathode Current	25 mA	—

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Starter Triggering Voltage	50 V	—
Ionization Time	20 us	—
Deionization Time	500 us	—
Anode Breakdown Voltage	290 V	—

SOURCE OPERATING CONDITIONS

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1957 Philips Receiving and Amplifying Tubes

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1957 PHILIPS RECEIVING AND AMPLIFYING TUBES

Section 1 · Thyatron

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum Anode-Starter Voltage	180 V	—
Maximum Cathode Current	25 mA	—
Peak Cathode Current	100 mA	—
Ambient Temperature Minimum	-60 degC	—
Ambient Temperature Maximum	75 degC	—

SOURCE OPERATING CONDITIONS

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1963 Amperex Condensed

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1963 AMPEREX CONDENSED

Section 1 · Thyatron

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Anode voltage minimum	140 V DC	ColdCathodeTrigger
Anode voltage maximum	200 V DC	ColdCathodeTrigger
AC anode voltage	117 V AC	ColdCathodeTrigger
Starter-to-cathode breakdown voltage minimum	73 V	ColdCathodeTrigger

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Starter-to-cathode breakdown voltage maximum	105 V	ColdCathodeTrigger
Anode-to-cathode breakdown voltage	>200 V	ColdCathodeTrigger

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum load current	25 mA	ColdCathodeTrigger
Peak load current	100 mA	ColdCathodeTrigger



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1963 Philips Electron Tubes Handbook V2

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1963 PHILIPS ELECTRON TUBES HANDBOOK V2

Section 1 · Thyatron

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Anode ignition voltage at starter 0 V	290 V	—
Starter ignition voltage variable	73–105 V	—
Starter ignition voltage at anode 0 V	80 V	—
Anode burning voltage at 50 mA	85 V	—
Anode maintaining voltage at 25 mA	62 V	—
Starter maintaining voltage at 10 mA	75 V	—
Starter maintaining voltage at anode current 25 mA	61 V	—
Anode-starter breakdown voltage	200— V	Minimum

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Starter transfer current	50–400 μ A	—
Anode transfer current	—160 μ A	Maximum
Ionization time	20 μ s	—
Deionization time	500 μ s	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum anode-starter voltage	—180 V	—
Maximum average cathode current	—25 mA	—
Maximum peak cathode current	—100 mA	—
Maximum positive starter peak current	—100 mA	—
Relay-service AC supply voltage	117 V RMS	50Hz
Maximum peak inverse voltage as rectifier	—200 V	50Hz
Maximum rectifier current	—100 mA	50Hz



SOURCE DATA APPENDIX

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1971 RCA HB3 Binder 2 of 7

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1971 RCA HB3 BINDER 2 OF 7

Section 1 · Thyatron

CONSTRUCTION		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Cathode type	Cold	—

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Ionization time	20 μ s	—
Deionization time	500 μ s	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Anode voltage drop	62 V	—
Starter-electrode voltage drop	61 V	—
Anode breakdown voltage	290 V	—
Starter-electrode breakdown voltage	80 V	—
Required transfer current	50 uA	At140VPeak

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak forward anode and starter-electrode voltage	200 V	—
Peak inverse anode and starter-electrode voltage	200 V	—


SOURCE DATA APPENDIX

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1975 RCA RC30

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1975 RCA RC30

Section 1 · Thyatron

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak inverse anode/starter voltage	200 V	FirstQuadrant
Peak forward anode/starter voltage	200 V	FirstQuadrant
Peak cathode current	100 mA	FirstQuadrant
Average cathode current	25 mA	FirstQuadrant
Peak starter-electrode current	100 mA	StarterPositive
AC anode supply voltage RMS	117 V	RelayService 60Hz
Maximum pre-firing starter voltage	70 V	RelayService 60Hz

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Minimum triggering starter voltage	35 V	RelayService 60Hz
Minimum firing voltage	105 V	RelayService 60Hz



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1999 Philips 0-D

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1999 PHILIPS 0-D

Section 1 · Thyatron

CONSTRUCTION		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Filling	Gas; cold cathode	—

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Typical anode ignition voltage	290 V	ControlVoltage=0V
Typical starter ignition voltage	80 V	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum anode supply voltage	180 V	—
Maximum cathode current	25 mA	—
Maximum peak cathode current	100 mA	—

TUBE TINKER

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