



ELECTRONIC TUBE REFERENCE

5551A

Specialized - Ignitron electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

IGNITRONPOWER SWITCH

Water-cooled steel-jacketed mercury-pool ignitron for resistance-welding control, designed to switch very high currents reliably in heavy industrial welding equipment.

GENERAL CHARACTERISTICS

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

SECTION RATINGS

SECTION 1 IgnitronPowerSwitch	
MAXIMUM PLATE VOLTAGE	500 V
<i>Published maximum ratings and device-specific characteristics are promoted where schema-compatible; remaining switching/gauge/regulator electrical data is retained in section parameters.</i>	

Water-cooled steel-jacketed mercury-pool ignitron for resistance-welding control. 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 · IgnitronPowerSwitch

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak ignitor voltage required to fire	200 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
Peak ignitor current required to fire	30 A	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
or current	100 s	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
At peak anode current of 3400 amperes – published value 1	3400 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
At peak anode current of 3400 amperes – published value 2	26 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
At peak anode current of 176 amperes – published value 1	176 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
At peak anode current of 176 amperes – published value 2	13 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
Minimum inlet water temperature	10	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
t For supply voltages between 250 volts and 600 volts, duty is propor– – published value 1	250 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
t For supply voltages between 250 volts and 600 volts, duty is propor– – published value 2	600 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
tional Lo supply voltage. For supply voltages lower than 250 volts,	250 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
the values for 250 volts apply	250 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
'~ For supply voltages between 250 volts and 600 volts, demand anode – published value 1	250 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
'~ For supply voltages between 250 volts and 600 volts, demand anode – published value 2	600 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
current and averaging time are each inversely proportional to suDD 1 Y	1	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
voltage. For supply voltages lower than 250 volts, the values for 250 – published value 1	250 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
voltage. For supply voltages lower than 250 volts, the values for 250 – published value 2	250 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
RMS ANODE- SUPPLY VOLTS= 250 TO 600 – published value 1	250 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
RMS ANODE- SUPPLY VOLTS= 250 TO 600 – published value 2	600 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum outlet water temperature	40	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
Maximum water-temperature rise	4	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum pressure drop	2.5	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
Forward	500 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
Inverse	500 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
Peak	700 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
of 6 seconds maximum) – published value 1	6 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
of 6 seconds maximum) – published value 2	40 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
ond maximum	8750 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
Forward – published value 1	1200 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
Forward – published value 2	1200 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
Inverse – published value 1	1200 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
Inverse – published value 2	1200 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
Peak – published value 1	135 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
Peak – published value 2	600 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
onds maximum) – published value 1	22.5 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
onds maximum) – published value 2	5 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
ond maximum) – published value 1	22.5 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
ond maximum) – published value 2	100 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
second maximum – published value 1	7500 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
second maximum – published value 2	7500 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
Forward – published value 1	1500 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
Forward – published value 2	1500 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
Inverse – published value 1	1500 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
Inverse – published value 2	1500 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
Peak – published value 1	108 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
Peak – published value 2	480 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
onds maximum) – published value 1	18 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
onds maximum) – published value 2	4 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
ond maximum) – published value 1	18 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
ond maximum) – published value 2	80 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
second maximum – published value 1	6000 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
second maximum – published value 2	6000 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
SUPPLY VOLTAGE (RMS) – published value 1	250 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
SUPPLY VOLTAGE (RMS) – published value 2	250 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
Peak – published value 1	1130 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
Peak – published value 2	3400 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
duction)# – published value 1	800 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
duction)# – published value 2	2400 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
onds maximum)# – published value 1	56 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
onds maximum)# – published value 2	30.2 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
second maximum – published value 1	6720 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
second maximum – published value 2	6720 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
SUPPLY VOLTAGE (RMS) – published value 1	600 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
SUPPLY VOLTAGE (RMS) – published value 2	600 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
Peak – published value 1	466 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
Peak – published value 2	1410 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
duction)# – published value 1	333 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
duction)# – published value 2	1000 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
second maximum – published value 1	2800 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
second maximum – published value 2	2800 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
SUPPLY VOLTAGE (RMS) – published value 1	250 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
SUPPLY VOLTAGE (RMS) – published value 2	250 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
onds maximum)# – published value 1	36 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
onds maximum)# – published value 2	21 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
Peak – published value 1	466 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
Peak – published value 2	1410 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
duction)~ – published value 1	333 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
duction)~ – published value 2	1000 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
onds maximum)` – published value 1	36 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
onds maximum)` – published value 2	21 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
second maximum – published value 1	925 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
second maximum – published value 2	2800 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
Negative	5 V	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
Peak	100 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
of 5 seconds maximum) – published value 1	5 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.
of 5 seconds maximum) – published value 2	1 mA	Published datasheet value; multiple values on one row represent separate limits, service ratings, or operating conditions.