



ELECTRONIC TUBE REFERENCE

B5031

Nixie electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

NIXIE

Standard-size gas-filled cold-cathode Nixie numerical readout tube. Burroughs data specify a 170 V maximum ionization voltage and recommended minimum supply, with series-resistor operating circuits documented for 170, 250, and 300 V supplies.

GENERAL CHARACTERISTICS

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

SECTION RATINGS

SECTION 1 Nixie	
MAXIMUM CATHODE CURRENT	3 mA
MINIMUM REGULATOR CURRENT	1 mA
MAXIMUM REGULATOR CURRENT	2.5 mA
STARTING VOLTAGE	170 V
<i>Special-purpose display/switching section. Published non-promoted ratings are retained in TUBE_SECTION_PARAMETER.</i>	

B5031 is a gas-filled cold-cathode Nixie numerical/readout device. The shared catalog identifies it with the B5031 electrical family, using a maximum ionization voltage of 170 V and a recommended minimum supply of 170 V.

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1961 Nixie Burroughs

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

1961 NIXIE BURROUGHS

Section 1 · Nixie

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Ionization Voltage Maximum	170 V	—
Supply Voltage Minimum	170 V	Catalog minimum supply voltage
Cathode Current Peak	3.5 mA	—
Cathode Current Average	1.75 mA	—
Individual Cathode Wattage Maximum	0.4 W	—
Test Supply Voltage	170 V	—
Test Series Resistor	10 kOhm	—
Display Size Class	Standard	—
Numeral Height	0.61 in	—
Recommended Socket	HSK106 or HSK112	—
Recommended Supply Voltage	170 V	Series resistor 10 kOhm
Recommended Series Resistor	10 kOhm	Supply voltage 170 V
Recommended Supply Voltage	250 V	Series resistor 56 kOhm
Recommended Series Resistor	56 kOhm	Supply voltage 250 V
Recommended Supply Voltage	300 V	Series resistor 82 kOhm
Recommended Series Resistor	82 kOhm	Supply voltage 300 V

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Cathode Current Minimum	1 mA	—
Cathode Current Maximum	2.5 mA	—

ENVIRONMENTAL		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Shock	55 G	—
Vibration	10 G	60 cps
Operating Temperature Range	-65 to +70 C	—
Altitude	70000 ft	—



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

1963 Burroughs

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

1963 BURROUGHS

Section 1 · Nixie

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Ionization Voltage	170 V	—
Supply Voltage	170 V	—
Cathode Current	3 mA	—
Typical Supply Voltage	170 V	—
Series Resistance	10000 ohm	—
Typical Cathode Current	2.25 mA	—



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

196X Burroughs Nixie

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

196X BURROUGHS NIXIE

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Ionization voltage	170 V	Absolute rating; maximum
Minimum supply voltage	170 V	Absolute rating; minimum recommended supply
Cathode current	3.5 mA	Peak
Cathode current	1.75 mA	Average
Individual cathode dissipation	0.4 W	Maximum
Anode supply voltage	170 V	BasicCircuit test condition
Anode series resistor	10 k0hm	BasicCircuit test condition
Cathode current	1–2.5 mA	BasicCircuit test condition
Numeral height	0.61 in	Standard
Recommended anode series resistor	10 k0hm	Anode supply 170 V
Recommended anode series resistor	56 k0hm	Anode supply 250 V
Recommended anode series resistor	82 k0hm	Anode supply 300 V
Pre-bias voltage	75–120 V	Referenced to on cathode

TUBE TINKER

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

[Catalog](#) [Tube types](#) [Full books](#) [Blog](#) [Feedback & corrections](#)

© 2026 Tube Tinker