

ELECTRONIC TUBE REFERENCE

ZM1070

Specialized - Switching Tube electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

COUNTERSELECTORSWITCH

Cold-cathode decade counting, display, and switching tube supporting bidirectional counting. Sequential gas-discharge transfer provides electronic counting and visible indication.

GENERAL CHARACTERISTICS

BASE DESIGNATION	Special 13-pin	BASE PINS	13
NOMINAL HEATER	– / –	PARALLEL HEATER	– / –
HEATING	Indirect; cold cathode	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION1 CounterSelectorSwitch	
MINIMUM REGULATOR CURRENT	250 mA
MAXIMUM REGULATOR CURRENT	525 mA
MAINTAINING VOLTAGE	195 V
Single indicator/counting section. Nixie-specific electrical ratings and operating data are retained in TUBE_SECTION_PARAMETER.	

Valvo ZM1070/8433 is a gas-filled cold-cathode decade counting and display tube for forward and reverse counting. Ten separately brought-out cathodes provide a glow indication of the active count position.

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1965 Nixie Valvo

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

1965 NIXIE VALVO

Section 1 · CounterSelectorSwitch

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum counting frequency	5 kHz	At 25 C
Minimum pulse spacing	200 us	At 25 C
Minimum discharge duration	60 us	Any counting cathode
Counting signal voltage	-45 V	For kA/kB
Reset voltage	-225--120 V	Published range
Burning voltage	195 V	At 475 V supply and 820 kOhm anode resistor

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Anode supply voltage	375-550 V	Absolute range
Supply time constant	1— ms	Minimum
Counting-cathode bias	35-60 V	For kA/kB
Voltage between counting cathodes	—140 V	Absolute maximum except reset
Maximum negative bias on any output cathode	—20 V	Absolute maximum
Average cathode current	0.25-0.525 mA	Absolute range
Ambient temperature	—50 degC	Absolute maximum
Recommended anode supply voltage	475 V	Typical circuit
Recommended anode resistor	820 kOhm	Typical circuit
Recommended anode current	0.34 mA	Typical circuit
Counting pulse amplitude	-100 V	Typical circuit
Counting pulse duration	75 us	Typical circuit

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Counting cathode bias	40 V	kA/kB
Output pulse amplitude	23–35 V	Typical circuit



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

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196X Nixie Random Datasheets

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

196X NIXIE RANDOM DATASHEETS

Section 1 · CounterSelectorSwitch

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum counting frequency	5 kHz	At 25 C
Minimum pulse spacing	200 us	At 25 C
Minimum discharge duration	60 us	Any counting cathode
Counting signal voltage	-45 V	For kA/kB
Reset voltage	-225--120 V	Published range
Burning voltage	195 V	At 475 V supply and 820 kOhm anode resistor

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Anode supply voltage	375–550 V	Absolute range
Supply time constant	1— ms	Minimum
Counting-cathode bias	35–60 V	For kA/kB
Voltage between counting cathodes	—140 V	Absolute maximum except reset
Maximum negative bias on any output cathode	—20 V	Absolute maximum
Average cathode current	0.25–0.525 mA	Absolute range
Ambient temperature	—50 degC	Absolute maximum
Recommended anode supply voltage	475 V	Typical circuit
Recommended anode resistor	820 kOhm	Typical circuit

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Recommended anode current	0.34 mA	Typical circuit
Counting pulse amplitude	-100 V	Typical circuit
Counting pulse duration	75 us	Typical circuit
Counting cathode bias	40 V	kA/kB
Output pulse amplitude	23–35 V	Typical circuit

TUBE TINKER

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and their source documents.

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