

ELECTRONIC TUBE REFERENCE

ZM1000

Nixie electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION
CONSTRUCTION
NIXIE

Long-life cold-cathode ten-digit side-viewing numerical indicator with decimal point. Designed for direct electronic readout, it combines shaped glow-discharge digit cathodes with extended-life construction for instrumentation and other numerical display equipment.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	16
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 PLATE VOLTAGE	170 V
MAXIMUM CATHODE CURRENT	12 mA
MINIMUM REGULATOR CURRENT	1.5 A
MAXIMUM REGULATOR CURRENT	4.5 A
STARTING VOLTAGE	170 V
MAINTAINING VOLTAGE	140 V
Cold-cathode discharge/display section; explicit published limits and operating data are retained as section parameters.	

ZM1000 is a cold-cathode long-life 10-digit side-viewing indicator with decimal point, classified as Nixie for this batch. The supplied datasheet was reviewed for operating conditions, ratings, and display/counting characteristics.



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1969 Nixie Mullard

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

1969 NIXIE MULLARD

Section 1 · Nixie

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Numeral/Character Height	14 mm	Published mechanical/display data
Maximum Peak Cathode Current	12 mA	Published peak limit

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Supply Voltage	170 V	Published operating data
Minimum Ignition Voltage	170 V	Minimum anode-to-cathode voltage necessary for ignition
Cathode Current	2.5 mA	Published average/normal value



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1969 Nixie Valvo

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

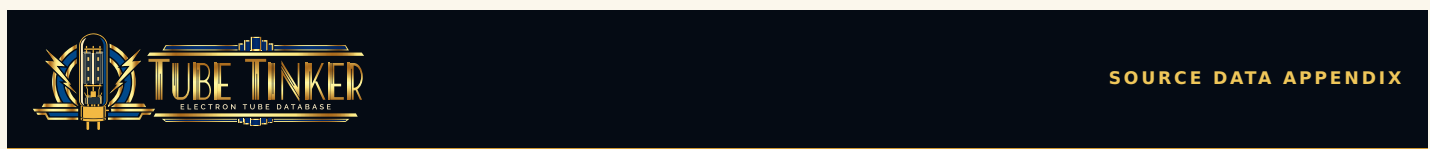
1969 NIXIE VALVO

Section 1 · Nixie

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Supply voltage	170 V	0 to 70 degC
Anode current	1.5–4.5 mA	Continuous; integration time ≥ 20 ms
Pulse anode peak current	—20 mA	Pulse operation
Pulse duration	100— μ s	Pulse operation

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Pulse anode current	12 mA	Typical pulse operation
Average anode current	2.5 mA	Pulse operation
Driven-to-undriven cathode voltage	65 V	Pulse operation
Decimal point cathode resistor	100 kOhm	+/-10%
Auxiliary electrode resistor	10 MOhm	+/-10%
Ambient temperature	-50-70 degC	Absolute range

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Ignition voltage	170 V	Typical
Burning voltage	140 V	Nominal characteristic
Extinction voltage	118 V	Typical
Life with changing display	100000— h	At 2.5 mA; change every 1000 h or more often



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

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 · Nixie

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Supply Voltage	170 V	Published datasheet value
Maximum/Normal Cathode Current	2.3 mA	Published datasheet value
Numeral Height	14 mm	Published datasheet value
Average Anode Current	2.3 mA	Published datasheet value
Decimal Point Cathode Resistor	100 kOhm	Published datasheet value

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Ignition/Starting Voltage	170 V	Published datasheet value
Minimum Cathode/Anode Current	1.5 mA	Published datasheet value



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1999 Philips E-Z

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

1999 PHILIPS E-Z

Section 1 · Nixie

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Numeral height	14 mm	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Minimum supply voltage	170 V	—
Average anode current	2.5 mA	—
Peak anode current	12 mA	—

TUBE TINKER

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