

ELECTRONIC TUBE REFERENCE

ZM1120

Nixie electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION
CONSTRUCTION
NIXIE

Front-viewed gas-filled cold-cathode Nixie displaying digits 0-9 with approximately 7.8 mm character height.

GENERAL CHARACTERISTICS

BASE DESIGNATION	Special 11-pin	BASE PINS	11
NOMINAL HEATER	- / -	PARALLEL HEATER	- / -
HEATING	Indirect; cold cathode	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION1 Nixie	
MINIMUM REGULATOR CURRENT	700 mA
MAXIMUM REGULATOR CURRENT	1.4 A
STARTING VOLTAGE	170 V
MAINTAINING VOLTAGE	145 V
Single cold-cathode display section. Nixie-specific electrical ratings and operating data are retained in TUBE_SECTION_PARAMETER.	

The ZM1120 is a gas-filled cold-cathode Nixie display tube. The catalog shows 0 to 9 with a front viewing arrangement and a character height of 7.8 mm. Its ignition voltage is 170 V, extinction voltage is about 115 V, and normal glow voltage is about 145 V. The source is French-language material translated to English for this record.

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1966 Nixie Telefunken

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

1966 NIXIE TELEFUNKEN

Section 1 · Nixie

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Ignition voltage	—170 V	Measured/operating data; maximum stated
Burning voltage	145 V	At cathode current 1 mA
Expected life	30000 h	Changing display at about 1 mA per digit; ambient temperature down to about -10 degC
Digit height	7.8 mm	Visible digit height
Maximum weight	5 g	Mechanical data

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Cathode current	0.7–1.4 mA	Measured and operating range
Minimum supply voltage	170 V	Absolute minimum supply requirement
Pulse cathode current	—1.5 mA	Maximum; pulse duration ≤20 ms
Envelope temperature	-50–70 degC	Absolute range
Cathode-to-cathode bias voltage	40–120 V	For non-burning cathodes when required
Recommended off-cathode bias	80 V	Recommended when non-burning cathodes require positive bias
Recommended cathode current	1 mA	Approximate per displayed digit

1973 Nixie Siemens

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

1973 NIXIE SIEMENS

Section 1 · Nixie

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Ignition voltage	170 V	Maximum/typical threshold shown in source table
Operating glow voltage	145 V	Approximate service voltage
Extinction voltage	115 V	Source table value
Nominal cathode current	1 mA	Main symbol/digit

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum supply voltage	170 V	Absolute limit table
Cathode current	0.7–1.4 mA	Main symbol/digit continuous range
Maximum peak cathode current	1.5 mA	Main symbol/digit
Envelope temperature minimum	-20 degC	Operating envelope temperature range
Envelope temperature maximum	70 degC	Operating envelope temperature range
Display characters	0 to 9	Translated from French source
Display orientation	front	Viewing orientation
Character height	7.8 mm	Display geometry
Maximum tube height	23 mm	Mechanical dimension
Maximum tube width/diameter	16.5 mm	Mechanical dimension as printed

TUBE TINKER

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