

ELECTRONIC TUBE REFERENCE

ZM1100

Nixie electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

NIXIE

Long-life Telefunken cold-cathode Nixie displaying 15.5 mm digits 0-9 for direct numerical indication.

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

SECTION1 Nixie	
MINIMUM REGULATOR CURRENT	1.5 A
MAXIMUM REGULATOR CURRENT	3 A
STARTING VOLTAGE	170 V
MAINTAINING VOLTAGE	143 V
DYNAMIC IMPEDANCE	7200 Ω
Single cold-cathode display section. Nixie-specific electrical ratings and operating data are retained in TUBE_SECTION_PARAMETER.	

Telefunken ZM1100 is a gas-filled cold-cathode Nixie decimal indicator that directly displays digits 0 through 9 as 15.5 mm glow-discharge numerals. It is specified for long-life operation and can be selected by relay, tube, transistor, beam-switch, or photoresistor control circuits.

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/general data; maximum stated
Burning voltage	143 V	Typical; at cathode current 2 mA
Burning current	1.5–3 mA	Specified operating range
Differential internal resistance	7.2 kΩ	Typical
Life with one digit continuously displayed	5000— h	At cathode current 2 mA
Life with changing display	50000— h	Changing indication; recommended bias 60 V

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Minimum supply voltage	170 V	Absolute minimum supply requirement
Pulse cathode current	—3.5 mA	Maximum; pulse duration ≤20 ms
Cathode-to-cathode bias voltage	40–120 V	For non-burning cathodes when required
Envelope temperature	–50–70 degC	Absolute range
Recommended off-cathode bias	60 V	DC operation with bias
Ballast resistance	11 kΩ	DC operation; supply voltage 170 V; burning voltage about 145 V
Ballast resistance	24 kΩ	DC operation; supply voltage 200 V; burning voltage about 145 V
Ballast resistance	47 kΩ	DC operation; supply voltage 250 V; burning voltage about 145 V
Ballast resistance	68 kΩ	DC operation; supply voltage 300 V; burning voltage about 145 V

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Ballast resistance	91 k0hm	DC operation; supply voltage 350 V; burning voltage about 145 V
Operating burning voltage	145 V	DC operation across specified supply-voltage examples

TUBE TINKER

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