



ELECTRONIC TUBE REFERENCE

ZM1162

Nixie electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

NIXIE

Gas-filled cold-cathode decimal indicator in a space-saving rectangular envelope, providing direct frontal display of digits 0-9. Valvo preliminary data specify approximately 170 V ignition, 140 V burning voltage, and 2.5 mA mean cathode current.

GENERAL CHARACTERISTICS

BASE DESIGNATION	Special 14-pin	BASE PINS	14
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	1.5 A
MAXIMUM REGULATOR CURRENT	3 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.	

Valvo ZM1162 is a gas-filled cold-cathode decimal indicator with a space-saving rectangular envelope and direct frontal glow display of digits 0 through 9. Preliminary data specify 170 V ignition, about 140 V burning voltage, and 2.5 mA mean cathode current.



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	15.5 mm	Published mechanical/display data

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

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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

CHARACTERISTICS

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Ignition voltage	170 V	Preliminary data
Burning voltage	140 V	Typical
Extinction voltage	115 V	Typical
Life with one digit continuously displayed	5000— h	Recommended conditions

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Life with changing display	30000— h	Digit changed every 100 h or more often
Viewing angle	90 deg	Frontal display
Digit set	0-9	Direct frontal display

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Mean cathode current	2.5 mA	Recommended
Cathode current	1.5–3 mA	Absolute range
Peak cathode current	—4 mA	Pulse
Envelope temperature	—70 degC	Absolute maximum



SOURCE OPERATING CONDITIONS

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196X Nixie Random Datasheets

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196X NIXIE RANDOM DATASHEETS

Section 1 · Nixie

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Ignition voltage	170 V	Preliminary data
Burning voltage	140 V	Typical
Extinction voltage	115 V	Typical
Life with one digit continuously displayed	5000— h	Recommended conditions
Life with changing display	30000— h	Digit changed every 100 h or more often
Viewing angle	90 deg	Frontal display
Digit set	0-9	Direct frontal display

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Mean cathode current	2.5 mA	Recommended
Cathode current	1.5–3 mA	Absolute range

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak cathode current	—4 mA	Pulse
Envelope temperature	—70 degC	Absolute maximum



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

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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	15.5 mm	Numeral height 15,5 mm
Cathode current	2.5 mA	Cathode current I_y 2.5 mA
Ignition voltage	170	Ignition voltage V_{ign} min. 170
Ignition delay	3	Ignition delay see page 3
Extinguishing voltage	118	Extinguishing voltage V_{ext} 118
LIFE EXPECTANCY at $I_y = 2,5$ mA and room temperature 1)	1 mA	LIFE EXPECTANCY at $I_y = 2,5$ mA and room temperature 1)
Anode voltage necessary for ignition	170	Anode voltage necessary for ignition V_a min, 170
1) For bulb temperatures below +100C the life expectancy of the tube is substan-	100	1) For bulb temperatures below +100C the life expectancy of the tube is substan-
age and the required anode load resistor for fixed values of V_i (voltage difference	0	age and the required anode load resistor for fixed values of V_i (voltage difference

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Supply voltage	170 V	Supply voltage V_{ba} min, 170 V
Cathode current, recommended	2.5 mA	Cathode current, recommended I_g 2.5 mA
Bulb temperature	70 oc	Bulb temperature t_{bulb} max. +70 oc

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
The graphs on pages 7 to 9 give the relationship between the d.c. anode supply volt-	9	The graphs on pages 7 to 9 give the relationship between the d.c. anode supply volt-

TUBE TINKER

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