



ELECTRONIC TUBE REFERENCE

ZM1550

Nixie electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION
CONSTRUCTION
NIXIE

Philips cold-cathode segmented gas-discharge indicator with approximately 15 mm character height, designed to form numerical or symbolic characters from luminous segments.

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

SECTION 1 Nixie	
MAXIMUM CATHODE CURRENT	3 mA
STARTING VOLTAGE	165 V
MAINTAINING VOLTAGE	120 V
<i>Electrical section values extracted from published ratings and characteristics.</i>	

Philips cold-cathode gas-filled indicator tube for numerical, sign, or segmented display service.

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
Character height	15 mm	Character height 15 mm
Decade pitch (also for stacked tubes)	0.7 mm	Decade pitch (also for stacked tubes) 17,78 mm (0,7 in)
Ignition voltage, first ignition, 25 Ix	165 V	Ignition voltage, first ignition, 25 Ix Vign < 165 V
Ignition voltage, subsequent ignitions within 10 ms	145 ms	Ignition voltage, subsequent ignitions within 10 ms Vign < 145 V
Primed ignition voltage	140 V	Primed ignition voltage Vign pr 5 140 V
Extinction voltage	120 V	Extinction voltage Vext 120 V
Luminous intensity per segment	10 mA	Luminous intensity per segment 10 mcd/mA
* Bulb temperatures above 70 oC result in changes in colour.	70 oC	* Bulb temperatures above 70 oC result in changes in colour.
** Bulb temperatures below 10 oC result in a reduced life expectancy and changes in characteristics.	10 oC	** Bulb temperatures below 10 oC result in a reduced life expectancy and changes in characteristics.
Shock: 50 g (peak), 1000 shocks in one of the three positions of the tube	1000	Shock: 50 g (peak), 1000 shocks in one of the three positions of the tube
Vibration: (-11 2,5 g (peak), -50 Hz for 2 hours	2 Hz	Vibration: (-11 2,5 g (peak), -50 Hz for 2 hours
current is 10% higher than the initial min. cover current.	10	current is 10% higher than the initial min. cover current.
Fig. 4 Maintaining voltage as a function of segment current.	4 a	Fig. 4 Maintaining voltage as a function of segment current.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
luminous intensity (mcd 1	1	luminous intensity (mcd 1
Fig. 5 Luminous intensity as a function of d.c. segment current.	5 a	Fig. 5 Luminous intensity as a function of d.c. segment current.
Fig. 6 Relative luminous intensity as a function of the direction of viewing.	6 a	Fig. 6 Relative luminous intensity as a function of the direction of viewing.

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Ignition delay, first ignition, Vba = 165 V, 25 Ix	1 V	Ignition delay, first ignition, Vba = 165 V, 25 Ix Td typ. < 1 s
Cathode current, d.c.	0.25 mA	Cathode current, d.c. max. 0,7 max. 0,25 mA
Cathode current, peak	1.1 mA	Cathode current, peak max. 3 max. 1,1 mA
Cathode current, mean Tav =max. 25 ms	0.2 ms	Cathode current, mean Tav =max. 25 ms max. 0,5 max. 0,2 mA
Ambient temperature	100 oC	Ambient temperature max. 100 oC
Anode supply	165 V	Anode supply Vba min. 165 V
Screen supply voltage IRscreen C 10 kSZ)	10 V	Screen supply voltage IRscreen C 10 kSZ) V bs
Life expectancy > 50 000 h at max. cathode current	0 h	Life expectancy > 50 000 h at max. cathode current

TUBE TINKER

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