Dieter’s

Nixie Tube Data Archive

This file is a part of Dieter's Nixie- and display tubes data archive

If you have more datasheets, articles, books, pictures or other information about Nixie tubes or other display devices please let me know.
Thank you!

Document in this file	Philips datasheet – ZM1031/01
Display devices in this document	ZM1031/01

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INDICATOR TUBE

Cold cathode sign indicator tube for side viewing.

QUICK REFERENCE DATA			
Sign height		15	mm
Signs		+ − ~	
Supply voltage	V_{ba}	min. 170	V
Anode current	I_a	3	mA

GENERAL

This tube has the same physical dimensions as the biquinary numerical indicator tube ZM1030. The ZM1031/01 is provided with a red contrast filter.

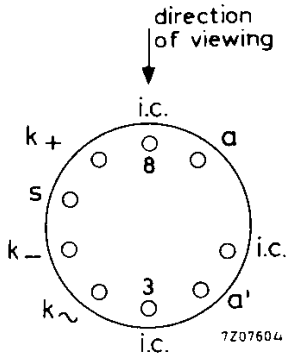
PRINCIPLE OF OPERATION

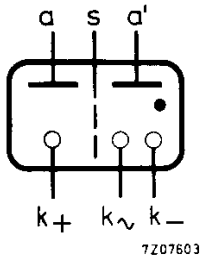
The tube contains two anodes and three cathodes in the form of the signs, and a shield. The anodes and the shield should be interconnected externally. See Fig.1, page 2.
By applying a suitable voltage between the required sign and the interconnected anodes, the sign will be covered by a red neon glow.

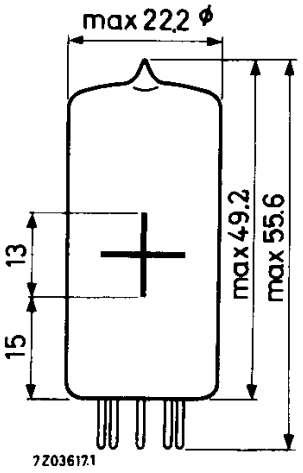
DIMENSIONS AND CONNECTIONS

Dimensions in mm

Base: Noval







Mounting position: any

The signs are viewed through the side of the envelope.

CHARACTERISTICS AND OPERATING CONDITIONS

Ignition voltage	V_{ign}	<	170	V
Maintaining voltage at I_a = 3 mA	V_m		140	V
Anode current,				
average during any conduction period for coverage	I_a	>	2	mA
→ average, T_{av} = 20 ms	I_a	<	4	mA
peak	I_{a_p}	<	10	mA
Incremental resistance	r_a		4.5	kΩ

LIMITING VALUES (Absolute max. rating system)

Anode voltage necessary for ignition	V_a	min.	170	V
Anode current,				
average during any conduction period	I_a	min.	2	mA
average (T_{av} = 20 ms)	I_a	max.	4	mA
peak	I_{a_p}	max.	10	mA
Bulb temperature	t_{bulb}	min.	-55	°C [1]
		max.	+70	°C

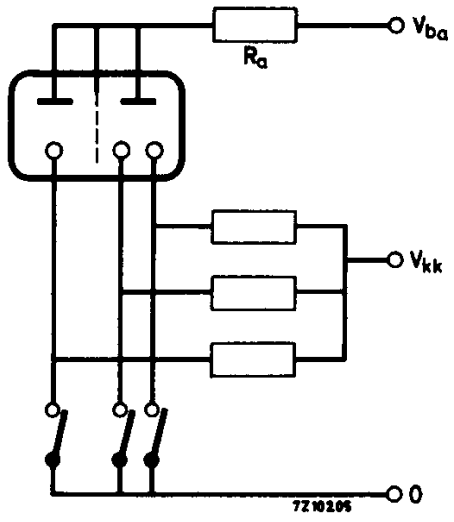


Fig.1

[1]) Below 10 °C the life expectancy is substantially reduced.