INDICATOR TUBE

Long-life cold-cathode ten-digit indicator tube for side-viewing.

QUICK REFERENCE DATA				
Numeral height		approx.	14	mm
Numerals		0 1 2 3 4 5 6 7 8 9		
Decimal point		to the left of the numerals		
Supply voltage	V_{ba}	min.	170	V
Anode current	I_a		2,5	mA

GENERAL

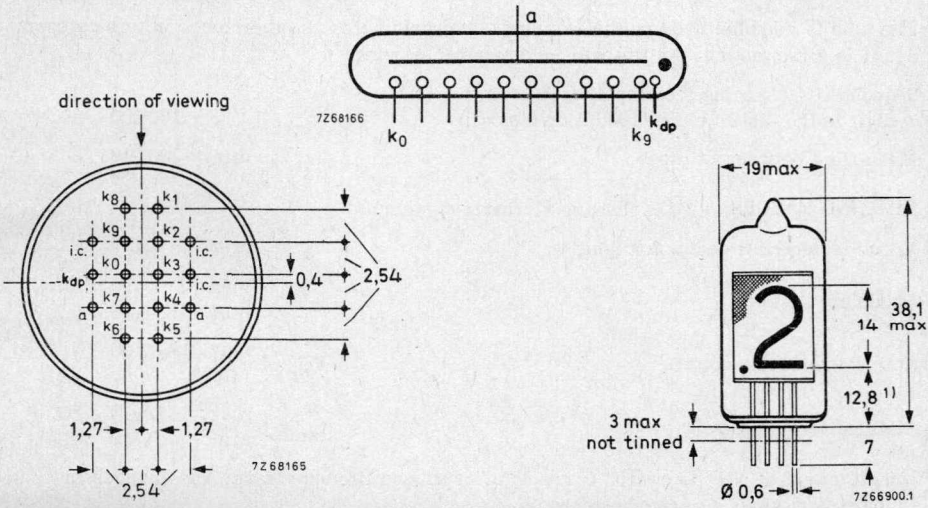
The numerals are 14 mm high and appear on the same base line allowing in-line read out.

PRINCIPLE OF OPERATION

By applying a suitable voltage between the anode and one of the cathodes the corresponding numeral or the decimal point will be covered by a red neon glow.

DIMENSIONS AND CONNECTIONS

Dimensions in mm



1) Standard deviation 0, 13 mm.

The deviations of the axis of the pins with respect to the true geometrical position cover an area of max. 0,3 mm diameter. The pin configuration is compatible with the reference grid for printed wiring according to IEC Publication 97 (0,1 in).

Mounting position: Any

Soldering:

The pins may be dip-soldered at a solder temperature of max. 240 °C for maximum 10 s up to a point 5 mm from the seals.

ACCESSORIES

55701 Printed wiring mounting board (19 x 100 mm) on which the tube can be soldered; afterwards the combination can be mounted on a vertical printed wiring board carrying, e.g., the drive circuit.

55702 Tube socket compatible with IEC reference grid for printed wiring (0,1 in). Phenolic. Tinned pins.

CHARACTERISTICS AND OPERATING CONDITIONS

Ignition voltage	V_{ign}	max.	170	V
Maintaining voltage	V_m	see page	4	
Anode current for coverage	I_a	max.	3,5	mA
		min.	1,5	mA
Cathode selecting voltage	V_{kk}	see page	4	
Extinction voltage	V_{ext}	min.	118	V

LIFE EXPECTANCY at I_a = 2,5 mA

The tube is manufactured on the same physical principles as other tubes in this category and it is expected that the life will be comparable, viz:

Sequentially changing the display from one digit to the others every 1000 h or less		100 000	h
Mean time between failures	min.	200 000	h

LIMITING VALUES (Absolute max. rating system)

Anode voltage necessary for ignition	V_a	min.	170	V
Anode current	I_a	max.	3,5	mA
		min.	1,5	mA
Cathode selecting voltage	V_{kk}	max.	100	V
		min.	60	V
Ambient temperature	t_{amb}	max.	+70	°C
		min.	-50	°C

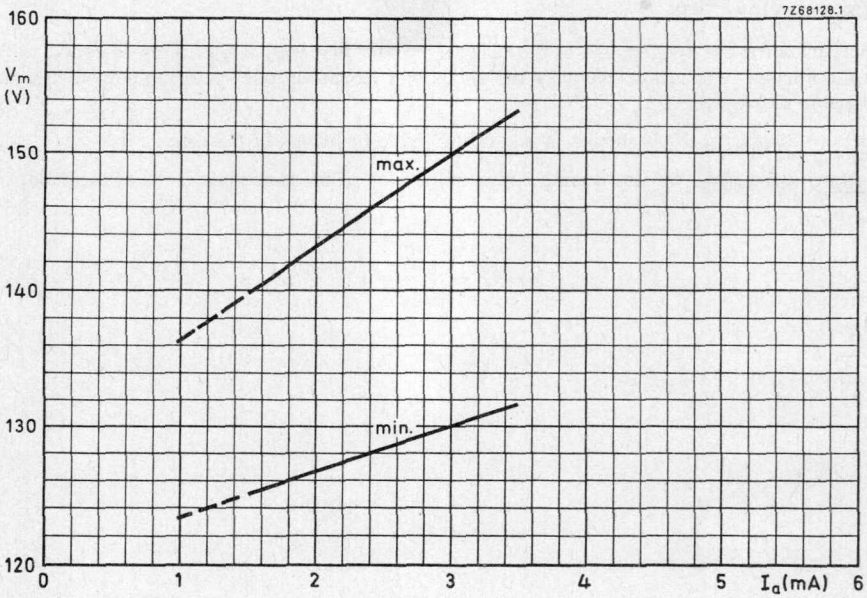
Bulb temperatures below 10 °C result in a reduced life expectancy and changes in characteristics.

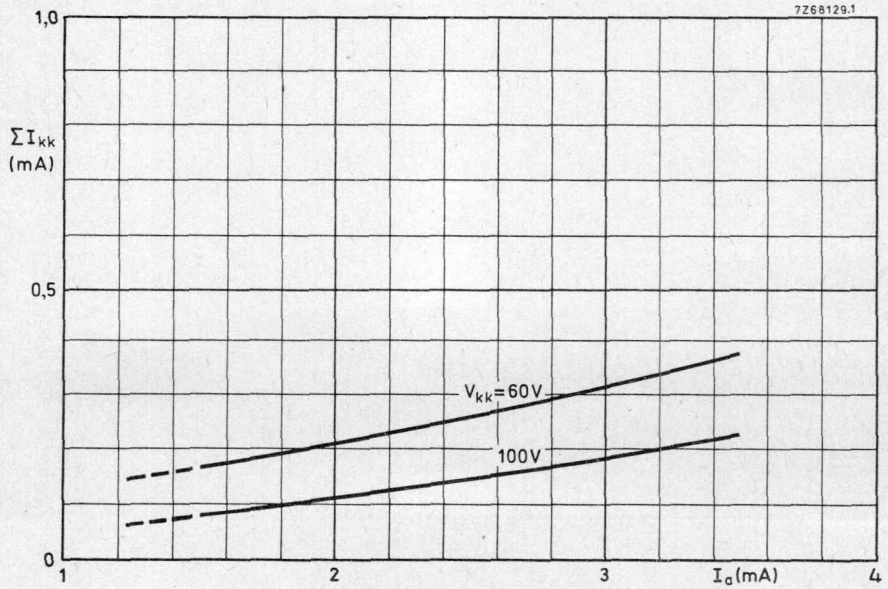
SHOCK AND VIBRATION

An indication for the ruggedness of the tube is the fact that 95% of the items sampled from the normal production line pass the shock and vibration test specified below without perceptible damage.

Shock 25 g_{peak}, 1000 shocks in one of the three positions of the tube.

Vibration 2,5 g_{peak}, 50 Hz, during 32 hours in each of the three positions of the tube.


7Z68128.1
160
V_m
(V)
150
140
130
120
max.
min.
0
1
2
3
4
5
I_a(mA)
6


7Z68129.1
1,0
ΣI_{kk}
(mA)
0,5
0
V_{kk}=60V
100V
1
2
3
I_a(mA)
4