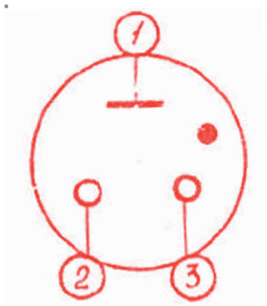
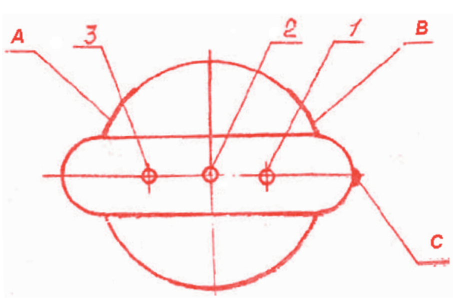
Description: IN-13 NEON BAR GRAPH

When you're tired of counting things, and just want graphical information, these neon bar graphs are happy to serve. Line 'em up for an acoustic spectacle.

They're made to glow. Current flowing between the tube's cathode and anode is proportionally displayed in the length of the glowing bar.



1. Anode   2. Indicating cathode   3. Auxiliary cathode



A. Active segment range markings, two at 90°± 10°
B. Active segment range marking, one at 90°± 10°
C. Indicator label

Basic Electrical Characteristics

Auxiliary cathode firing voltage	≦ 140 V
Indicating cathode maintaining voltage	94-99 V
Maximum working current	3.5-4.6mA
Minimum working current	0.2-0.6mA
Absolute linearity	± 4mm
Minimum brightness	≧ 50cd/m^2
Response time	≦ 1s
Change in bar length, 20°C to -60°C	≦ +9mm
Change in bar length, 20°C to +70°C	≦ -9mm
Maximum current deviation	≦ 0.4mA

Absolute Maximum Ratings

Power supply voltage	140V
Indicating cathode current	4.6mA*
Overload current	5.5mA
Overload time	10 hours
Auxiliary cathode current	0.11-0.15mA

**On linear segment. Maximum time at a single column length is ten hours without switching off. Maximum time in total for a single column length is fifty hours. Single column length is assumed when current change is no more than ± 0.04mA.*

Glass curvature tolerance is ± 0.5 mm.

Usage notes

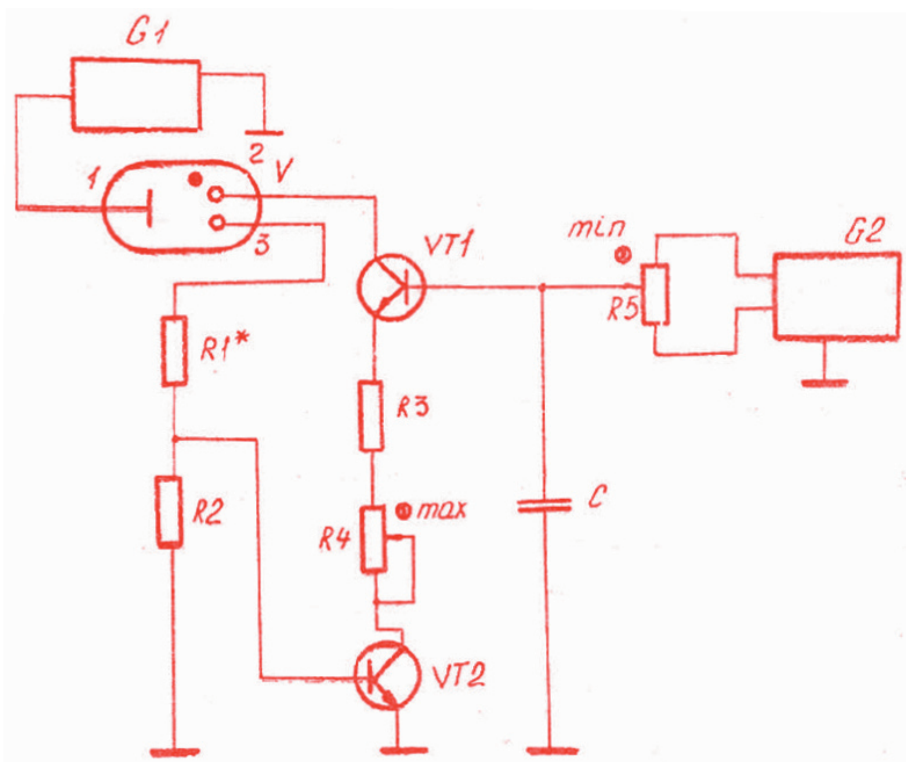
1. Recommended usage modes
   1.1. Maximum values should not be exceeded
   1.2. Do not apply reversed voltage to tube
   1.3. To avoid breaking the light column when switching:
   When switching on, the main cathode should not be on, and there should only be current on the auxiliary cathode.
   Apply 0.13mA ± 0.02mA to the auxiliary cathode, then apply main current, but allow 100ms to increase to maximum (the minimum rate of change should be 50uA/s).
   1.4. Ensure that the anode is connected to positive and that the auxiliary cathode to negative via a resistor carrying a maximum current to the auxiliary cathode of 0.13mA ± 0.02mA.
2. Working position
   2.1. Any

Schematic

C	50-100 uF 50V
G1	regulated power supply 0-150V
G2	control unit
R1	330k $\frac{1}{4}$W (experimental value)
R2	30k $\frac{1}{4}$W
R3	1k 2W
R4	variable resistor 1.5k 1W
R5	4.7k 1W
V	IN-13
VT1	$U_{CE} \geqq 50V$
VT2	$U_{CE} \geqq 50V$, $\beta \geqq 50$

Dimensions: 6.2 x 0.4 inches (157 x 9 mm) with 2.5 inch (60mm) leads

Weight: 0.46 oz (13 g)



Please send any queries or issues regarding product details to OGI LUMEN at: opensource@ogilumen.com

Vancouver BC CANADA
opensource@ogilumen.com
open source tools for neon, nixie tubes, and LEDs