

# Burroughs Corporation

ELECTRONIC COMPONENTS DIVISION  
PLAINFIELD, NEW JERSEY

Bulletin No. 1029

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## NUMERICAL INDICATOR Engineering Data Report

# 8423

(B6091) Ultra Long Life NIXIE<sup>R</sup> Tube

The 8423 (B6091) is a gas-filled, cold-cathode, super size numerical indicating tube containing a common anode and ten individual metallic cathodes. The cathodes are formed in the shape of numerals ("0" through "9"). This tube is intended for use as a direct, in-line, readout device.

### MECHANICAL DATA

Overall Length . . . . . 1.522 Max.  
Seated Height . . . . . 1.212 Max.  
Bulb Diameter . . . . . 1.350 Max.  
Numeral Height . . . . . .805 Nominal  
Pin Connection . . . . . See figure 3  
Mounting Position. . . . . See Note 2  
Weight . . . . . .8 oz. nom.

### ENVIRONMENTAL DATA

Temperature . . . . . -65° C. to +85° C.  
Altitude . . . . . 70,000 ft.

### ELECTRICAL DATA

#### Absolute Ratings

Ionization Voltage . . . 170 Vdc Max.  
Supply Voltage . . . . 170 Vdc Min.  
(Note 1)  
Cathode Current . . . . 4.5 ma Max.

#### Test Conditions

Supply Voltage (E) . . . 170 Vdc  
Series Resistor (R) . . . 6.8 K  
Cathode Current (I<sub>k</sub>)  
(Minimum) . . . . . 1.5  
(Maximum) . . . . . 4.0

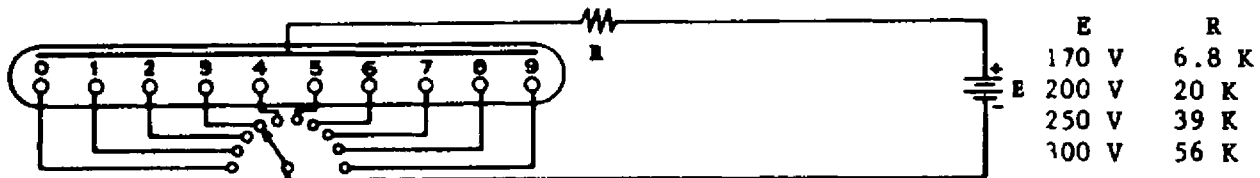


FIGURE 1. BASIC CIRCUIT

### NOTES

1. The minimum supply voltage should be 170 volts. However, the use of the highest available voltage with the appropriate series resistor is recommended to maintain cathode current within the specified limits. A supply voltage of 200 volts or more is recommended to assure proper operation at the temperature extremes.
2. Tubes should be mounted with pins 1 and 8 in a vertical line with pin 8 at the top.

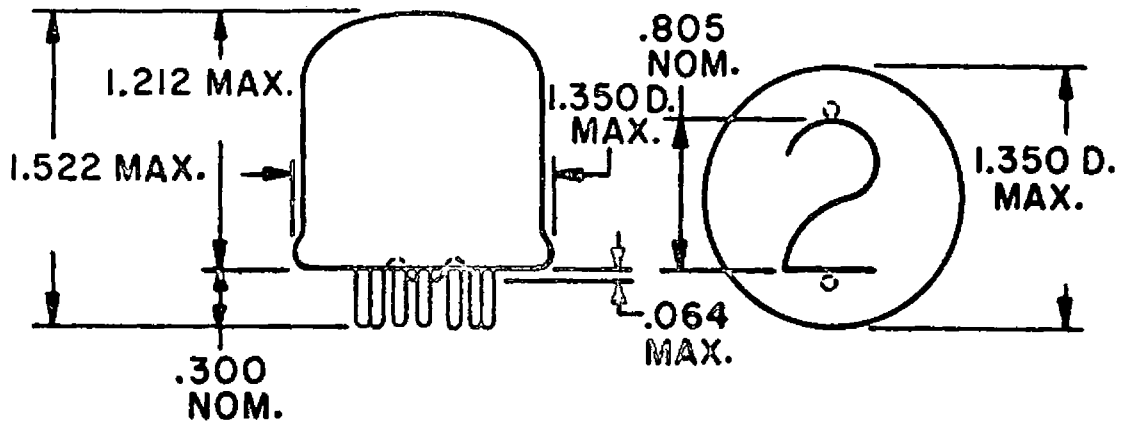
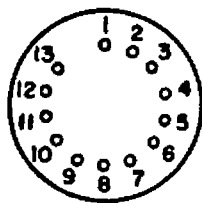


FIGURE 2. OUTLINE DRAWING



BOTTOM VIEW

PIN NO.	CHARACTERS
1	INTERNAL CONNECTION
2	ANODE
3	0
4	9
5	8
6	7
7	6
8	INTERNAL CONNECTION
9	5
10	4
11	3
12	2
13	1

FIGURE 3. PIN CONNECTIONS

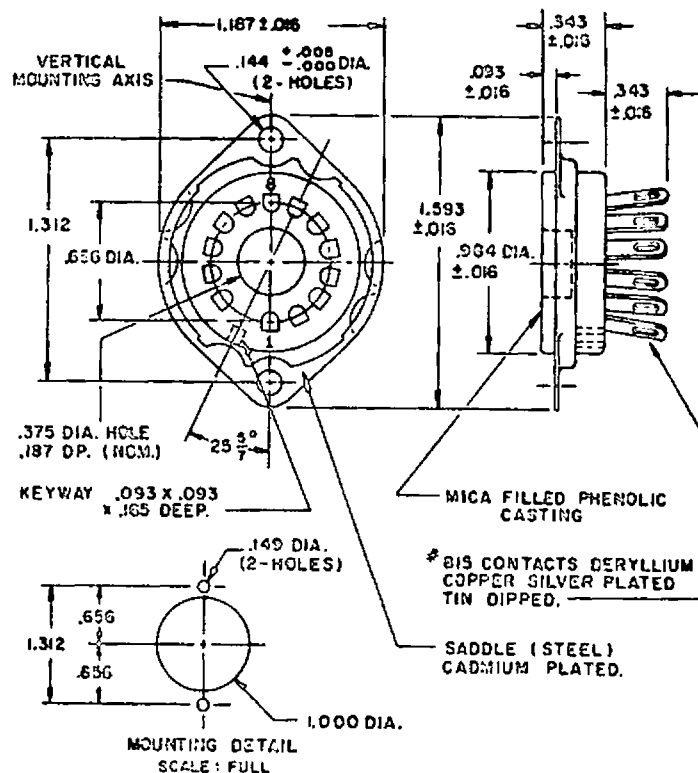


FIGURE 4. GENERAL PURPOSE SOCKET, SK-112