no. 106 October 1958

NUMERICAL INDICATOR

engineering data report

7009

MINIATURE NIXIE* (BD-200S)

The 7009 (BD-200S) is a gas-filled, cold cathode, 10 digit ("0" through "9"), miniature indicating tube, having a common anode with a suppressor screen to minimize darkening of the viewing dome. This tube features a cup design providing a non-glare background. It is intended for use as a direct in-line read-out device.

MECHANICAL DATA
(SEE FIGURE 1)

Overall Length	1.175" Max. (cut leads) 2.325" Max. (long leads)
Seated Height	0.925" Max.
Bulb Diameter	0.650" Max.
Envelope Connections	See Figure 2
Height of Numerals	0.305" Nominal See Figure 1
Numeral Design (Human Engineered)	See Figure 3
Socket (SK116) 11 Pin	See Figure 4
Weight	0.5 Oz. Max.
Mounting Position	See Note 1
Cathode(s)	Glow Discharge

ELECTRICAL DATA

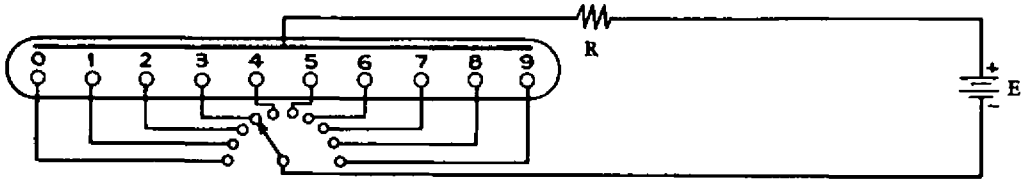
1. ABSOLUTE RATINGS:

Ionization Voltage	170 V. Max. (See Note 2)
Supply Voltage	170 V. Min. (See Note 2)
Cathode Current	
Peak	2.0 Ma. Max.
Average	1.0 Ma.

2. TEST CONDITIONS: (See Typical Circuit)

Supply Voltage	170 Vdc
Series Resistor	68 K Ohms
Cathode Current	0.70 Ma. Min. 1.20 Ma. Max.

TYPICAL CIRCUIT



RECOMMENDED OPERATING CONDITIONS
(SEE NOTE 2)

E	R
170V	68K
250V	150K
300V	200K

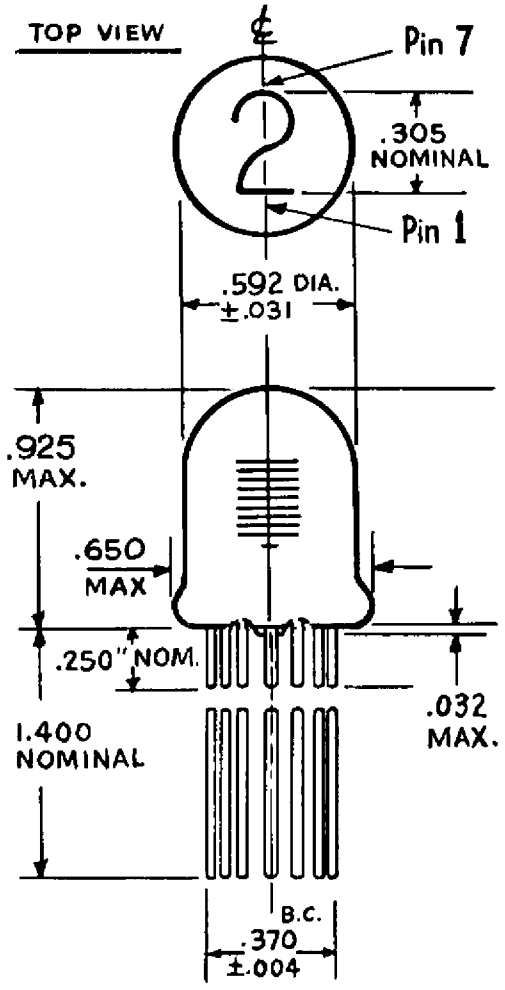
NOTES

(1) The tube socket is mounted with respect to the viewing position so that a line intersecting pins 1 & 7 is vertical with pin 7 on top. This orients the numbers in the correct viewing position. They are viewed through the top of the tube.

(2) All 7009 tubes will ionize at 170 V. or less. The minimum supply voltage should be 170 V.; however, the use of the highest voltage available with the appropriate series resistor is recommended to maintain cathode current within the specified limits.

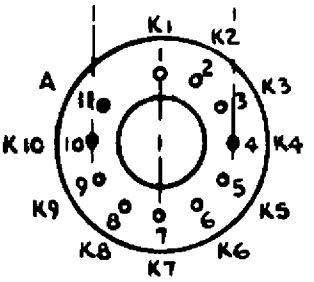
*Reg. Trade Mark.

from JETEC release #3212, Nov. 10, 1958



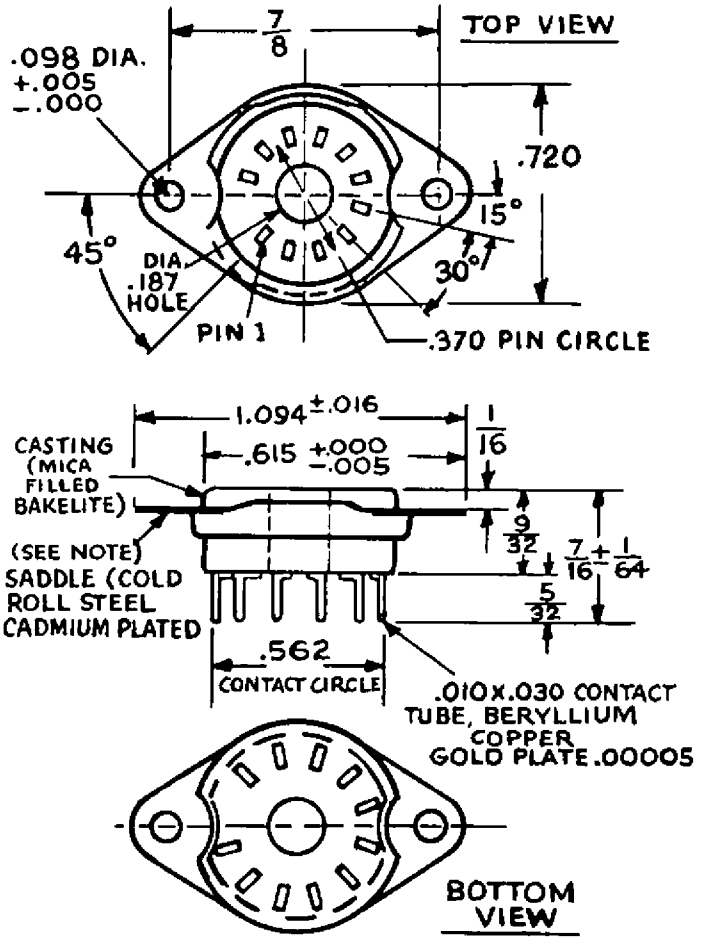
OUTLINE DRAWING

FIG. 1



ENVELOPE CONNECTION DIAGRAM

FIG. 2



CONTACT SOCKET ASSEMBLY SK 116

FIG. 4

1234567890

HUMAN ENGINEERED NUMBER SHAPES
USED ON ALL TUBE TYPES

FIG. 3