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**

![TYPICAL CIRCUIT](image)

**RECOMMENDED OPERATING CONDITIONS**

(SEE NOTE 2)

- E: 170V, 250V, 300V
- R: 68K, 130K, 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.

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