



NIXIE® PLUS-MINUS INDICATOR TUBE

(FOR DC APPLICATIONS)

TYPES

B-5856
B-5856S

PRELIMINARY INFORMATION

The B-5856 NIXIE tube is an ultra-long life, high quality, cold-cathode indicator tube having a common anode with +, - display. The numeral aspect ratio (height to width) has been designed to provide the optimum in readability and viewing distance. The small diameter of the tube (0.510" max) permits 0.520" center-to-center mounting and its short seated height (1.350" max including standoff) allows for minimal instrument panel dimensions.

A moveable pin-straightener-standoff, which is used to align the tube pins for ease of PC layout and insertion, is part of the tube assembly: The standoff also allows solder gas to escape during soldering.

These tubes have been specifically designed to operate only in DC applications.

The B-5856S is identical to the B-5856 except its leads are cut to $0.175'' \pm .015$ for use with the SK-207 socket, Bulletin 1138.

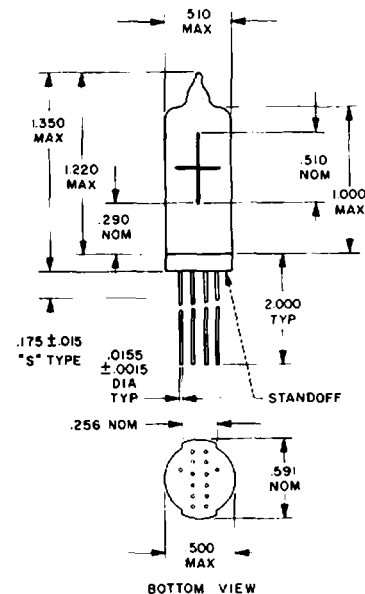
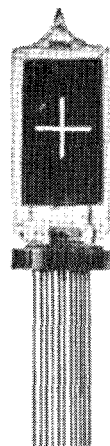


Figure 1. OUTLINE DRAWING

ELECTRICAL SPECIFICATIONS

Absolute Ratings

Ionization Voltage (Note 1, Fig. 4)	+170 Vdc max
Supply Voltage	+170 Vdc min
Anode Current	2.8 ma max
Cathode Pre-bias	+60 Vdc to +110 Vdc

Typical Operating Conditions (Note 1, Figure 4)

Supply Voltage	+170 Vdc
Series Resistor (Table 2)	15 k Ω
Anode Current (Figure 4)	2.0 ma typ
Cathode Pre-bias Voltage	+60 Vdc

Test Conditions (Figure 4)

Test Limits (Figure 4)

MECHANICAL SPECIFICATIONS

Outline Drawing Figure 1
Pin Connection Table 1
Pin Layout Figure 2
Basing Diagram Figure 3
Weight 0.4 oz. max
Lead Finish B-5856 Hot tin dip from 0.600 in. from tube base
Max. Viewing Distance 24 feet

Mounting Note 2
Color Neon red
3650, 4358, 5654 & 5852 angstroms
Brightness 200 ft. lamberts
Soldering Heat B-5856 $260 \pm 5^\circ\text{C}$ for 10 ± 1 sec.
0.250" from tube base

ENVIRONMENTAL DATA

Shock 250 g's, 1.0 msec., 20 total shocks
X1, X2, Y1 and Y2 planes
Thermal Shock 15 sec., 90°C water - immediate trans-
fer to 30°C water, 15 seconds
Life Expectancy
(dynamic) (200,000 hours) (Note 10)

Ambient temperature -20 to +55°C
-40 to 70°C (reduced life)
Altitude 70,000 ft.
Vibration 10-50-10 cps., 08" total excursion
50-2000 cps 10 g's 15 minutes
X1, X2, Y1 planes



Figure 3. BASING DIAGRAM



BLANK SPACES REPRESENT
INTERNAL CONNECTIONS

Table 1. PIN CONNECTIONS

1. The minimum supply voltage should be +170 Vdc, however, the use of the highest voltage available with an appropriate series resistor is recommended to provide: 1) greater tolerance of B+ & Rp; 2) more uniform brightness; 3) more constant current operation; 4) improved operation with temperature and 5) improved life. (See Table 2)

Table 2. Anode Resistor Values

2. For proper viewing the tube should be oriented so that pins 7 and 6 are closest to the viewer (Figure 3.)
3. Lead length on B-5856S is 0.175" $\pm$.015 (for use with SK-207 socket).
4. Under normal DC operating conditions.



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