

## Plasma Panel Display Modules

### DC Character Module with Drive Electronics

### TTL Level Data Interface and Integrated DC Converter



The APD-016A070 DC Plasma display offers viewing qualities designers seek such as high contrast, viewing angle of 150° minimum, and long distance readability. It is bright (50 foot lamberts minimum) characters are presented in a pleasing neon orange color against a black background. Plasma is much more readable and eye-pleasing than liquid crystal or vacuum fluorescent displays and is filterable to red, amber or neutral density.

These plasma display panels are driven by refreshing all 14 segments, the decimal point and the comma much like a CRT display. Each character segments are serially entered from segment A thru R (no I, L, O or Q segments) plus the decimal point and comma. Then a latch pulse advances the character, latches the data and turns on the outputs. The designer need only supply TTL level signals for SEGMENT DATA, SEGMENT CLOCK, CHARACTER LATCH and ANODE DATA. The SEGMENT DATA is entered, with the SEGMENT CLOCK up to frequencies as high as 8MHz. After all 14 segments, 1 period and 1 comma have been entered, the CHARACTER LATCH signal is toggled and the SEGMENT DATA is latched. At the time the data is latched, the display is briefly disabled and the character is advanced by the CHARACTER LATCH signal. Once each frame the ANODE DATA must be asserted to synchronize the character location with the SEGMENT DATA. The recommended scanning frequency is approximately 70Hz, but may be as high as 200Hz.

#### FEATURES

- TTL level interface.
- + 5 VDC only option available.
- High brightness and contrast.
- Large characters.
- On board DC converter.

#### ELECTRICAL SPECIFICATIONS

**Voltage Required:** Vdd: + 8 VDC to + 24 VDC.

**Power Required:** Typical = 4 watts. Maximum = 9 watts.

#### OPTICAL SPECIFICATIONS

**Viewing Area:** 10.70" [271.78mm] W x 0.70" [17.78mm] H.

**Character Array:** 1 x 16.

**Character Size:** 0.70" [17.78mm] W x 0.44" [11.18mm] H.

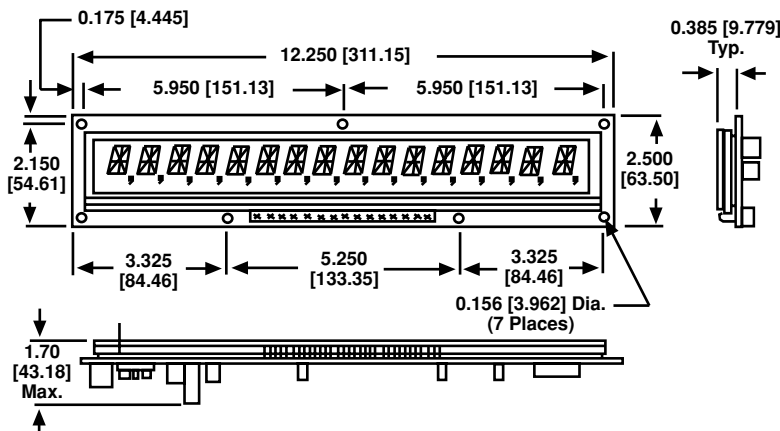
**Luminance:** 50 foot lamberts minimum.

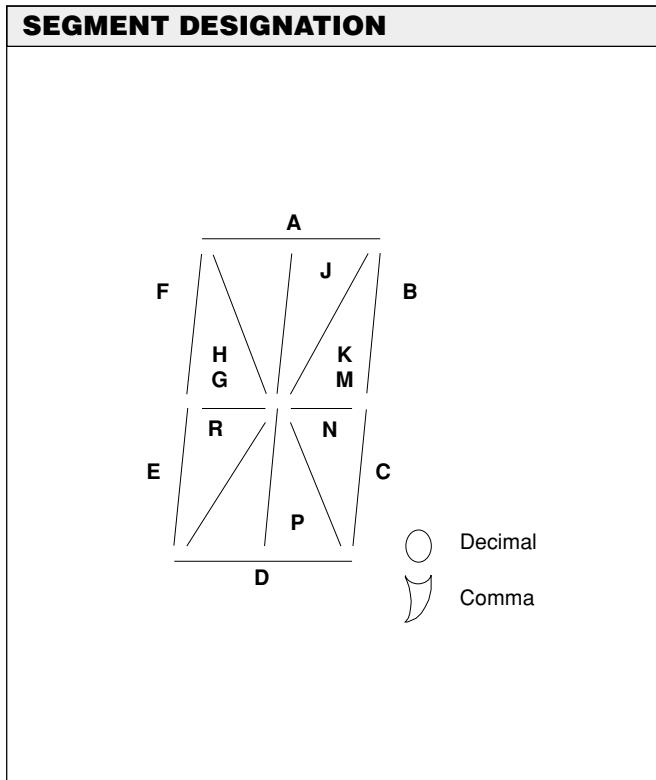
#### STANDARD ELECTRICAL SPECIFICATIONS\*

| DESCRIPTION    | SYMBOL | MIN. | TYP.      | MAX. | UNITS |
|----------------|--------|------|-----------|------|-------|
| Display supply | Vdd    | + 8  | + 18 ± 5% | + 25 | VDC   |
| Logic 1 Input  | Vih    | 2.0  | —         | —    | VDC   |
| Logic 0 Input  | Vil    | —    | —         | 0.8  | VDC   |

\*Recommended operating voltages. All maximums are absolute maximum.

#### DIMENSIONS in inches [millimeters]





| PIN DESCRIPTION  |                 |                       |             |
|--|-----------------|-----------------------|-------------|
| P3, POWER CONNECTOR  |                 |                       |             |
| AMP #640445-5 or equivalent.<br>(Mates with AMP 640428-5, MOLEX 09-50-3051 or equivalent.) |                 |                       |             |
| PIN  | SIGNAL          | DESCRIPTION           |             |
| 1  | GND             | Logic and Power       |             |
| 2  | —               | —                     |             |
| 3  | Vdd             | Display Supply        |             |
| 4  | KEY             | Used to key connector |             |
| 5  | GND             | Logic and Power       |             |
| P2, DATA CONNECTOR   |                 |                       |             |
| AMP #103309-2 or equivalent.<br>(Mates with AMP 746195-2, MOLEX 39-27-1146 or equivalent.) |                 |                       |             |
| PIN  | DESCRIPTION     | PIN                   | DESCRIPTION |
| 1  | —               | 2                     | GROUND      |
| 3  | ANODE DATA      | 4                     | GROUND      |
| 5  | —               | 6                     | GROUND      |
| 7  | CHARACTER LATCH | 8                     | GROUND      |
| 9  | SEGMENT CLOCK   | 10                    | GROUND      |
| 11   | SEGMENT DATA    | 12                    | GROUND      |
| 13   | No connect      | 14                    | GROUND      |

| ORDERING INFORMATION                                |             |
|---|-------------|
| DESCRIPTION   | PART NUMBER |
| Display Module with Drivers and TTL Interface ..... | APD-016A070 |
| Data Connector Kit .....                            | 280105-05   |
| Power Connector Kit .....                           | 280108-13   |



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