

# High Reliability 0.8-inch 4-Digits 7-Segment Numeric LED Displays

## SND-840 SND-847

### GENERAL DESCRIPTION

The SND-840 and the SND-847 series are high performance epoxy resin molded 4-digit 7-segment LED displays of which character height is 0.8 inch (20.3mm). These series provide excellent readability in bright ambients and available in three emitting colors; red, orange and yellow-green.

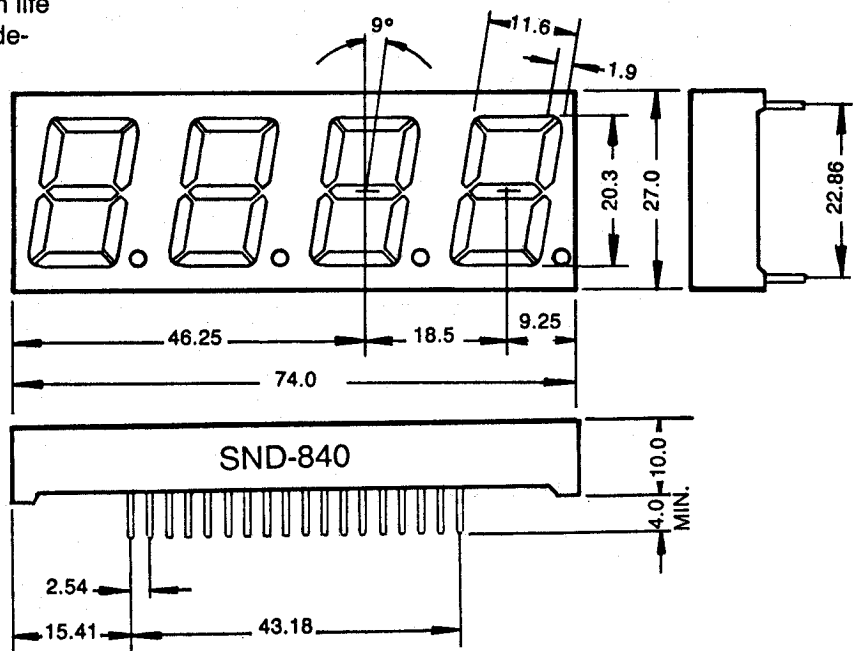
The standard unit is constructed with black face and milky white segment color.

### FEATURES

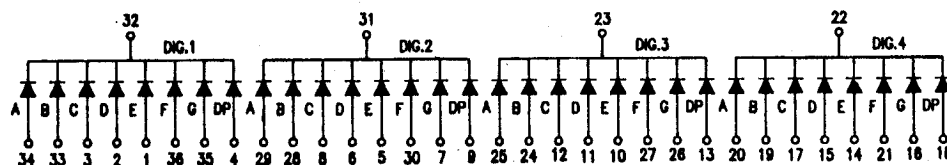
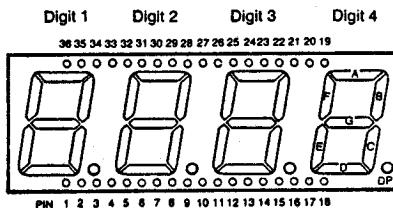
1. High brightness with high contrast
2. Uniform brightness and wide angle viewing
3. Low power consumption; Directly drive with I.C
4. Solid state reliability and long operation life
5. Cathode-common (SND-840) and anode-common (SND-847) types available

### PACKAGE DIMENSIONS

SCALE 1:1 (mm)



### CONNECTIONS GUIDE (Top View)



SND-840 (Cathode Common)

SND-847 (Anode Common) All diodes are reversed polarity



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## Red SND 840/847UR (GaAlAs)

Absolute Maximum Ratings ( $T_a = 25^\circ\text{C}$ )

|                         |            |                  |
|-------------------------|------------|------------------|
| Power dissipation/Total | 1280       | mW               |
| Power dissipation/Seg   | 40         | mW               |
| Forward current         | 20         | mA               |
| Peak forward current    | 60*        | mA               |
| Reverse voltage         | 4          | V                |
| Operating temperature   | -25 ~ +85  | $^\circ\text{C}$ |
| Storage temperature     | -55 ~ +100 | $^\circ\text{C}$ |

Electrical/Optical Characteristics ( $T_a = 25^\circ\text{C}$ )

| Parameter                | Symbol          | Conditions          | Min  | Typ  | Max. | Unit           |
|--------------------------|-----------------|---------------------|------|------|------|----------------|
| Forward voltage/Seg      | $V_F$           | $I_F = 10\text{mA}$ | —    | 1.9  | 2.1  | V              |
| Reverse current/Seg      | $I_R$           | $V_R = 4\text{V}$   | —    | —    | 10   | $\mu\text{A}$  |
| Luminous intensity/digit | $I_v$           | $I_F = 10\text{mA}$ | 1300 | 2500 | —    | $\mu\text{cd}$ |
| Peak wavelength          | $\lambda_P$     | $I_F = 10\text{mA}$ | —    | 660  | —    | nm             |
| Spectral line halfwidth  | $\Delta\lambda$ | $I_F = 10\text{mA}$ | —    | 20   | —    | nm             |

## Orange SND 840/847SR (GaAsP/GaP)

Absolute Maximum Ratings ( $T_a = 25^\circ\text{C}$ )

|                         |            |                  |
|-------------------------|------------|------------------|
| Power dissipation/Total | 1280       | mW               |
| Power dissipation/Seg   | 40         | mW               |
| Forward current         | 20         | mA               |
| Peak forward current    | 60*        | mA               |
| Reverse voltage         | 4          | V                |
| Operating temperature   | -25 ~ +85  | $^\circ\text{C}$ |
| Storage temperature     | -55 ~ +100 | $^\circ\text{C}$ |

Electrical/Optical Characteristics ( $T_a = 25^\circ\text{C}$ )

| Parameter                | Symbol          | Conditions          | Min | Typ  | Max. | Unit           |
|--------------------------|-----------------|---------------------|-----|------|------|----------------|
| Forward voltage/Seg      | $V_F$           | $I_F = 10\text{mA}$ | —   | 2.0  | 2.2  | V              |
| Reverse current/Seg      | $I_R$           | $V_R = 4\text{V}$   | —   | —    | 10   | $\mu\text{A}$  |
| Luminous intensity/digit | $I_v$           | $I_F = 10\text{mA}$ | 500 | 1000 | —    | $\mu\text{cd}$ |
| Peak wavelength          | $\lambda_P$     | $I_F = 10\text{mA}$ | —   | 635  | —    | nm             |
| Spectral line halfwidth  | $\Delta\lambda$ | $I_F = 10\text{mA}$ | —   | 35   | —    | nm             |

## Yellow-green SND 840/847UG (GaP)

Absolute Maximum Ratings ( $T_a = 25^\circ\text{C}$ )

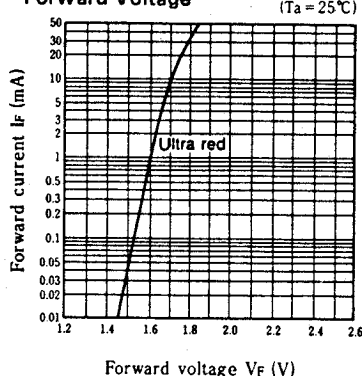
|                         |            |                  |
|-------------------------|------------|------------------|
| Power dissipation/Total | 1280       | mW               |
| Power dissipation/Seg   | 40         | mW               |
| Forward current         | 20         | mA               |
| Peak forward current    | 60*        | mA               |
| Reverse voltage         | 4          | V                |
| Operating temperature   | -25 ~ +85  | $^\circ\text{C}$ |
| Storage temperature     | -55 ~ +100 | $^\circ\text{C}$ |

Electrical/Optical Characteristics ( $T_a = 25^\circ\text{C}$ )

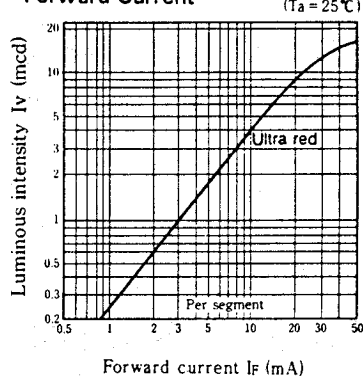
| Parameter                | Symbol          | Conditions          | Min | Typ  | Max. | Unit           |
|--------------------------|-----------------|---------------------|-----|------|------|----------------|
| Forward voltage/Seg      | $V_F$           | $I_F = 10\text{mA}$ | —   | 2.1  | 2.3  | V              |
| Reverse current/Seg      | $I_R$           | $V_R = 4\text{V}$   | —   | —    | 10   | $\mu\text{A}$  |
| Luminous intensity/digit | $I_v$           | $I_F = 10\text{mA}$ | 600 | 1300 | —    | $\mu\text{cd}$ |
| Peak wavelength          | $\lambda_P$     | $I_F = 10\text{mA}$ | —   | 565  | —    | nm             |
| Spectral line halfwidth  | $\Delta\lambda$ | $I_F = 10\text{mA}$ | —   | 30   | —    | nm             |

\* Pulse Width . . . . . 1 ms  
Duty Cycle . . . . . 1/5

Forward Current vs.  
Forward Voltage



Luminous Intensity vs.  
Forward Current



Spectrum Distribution

