

High Reliability 0.56-inch 5-Digits 7-Segment Numeric & Clock Displays

SNCD-650 SNCD-657

GENERAL DESCRIPTION

The SNCD-650 and SNCD-657 series are an epoxy resin molded 5-digit 7-segment numeric and clock LED displays of which character height is 0.56-inch (14.1mm). 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.

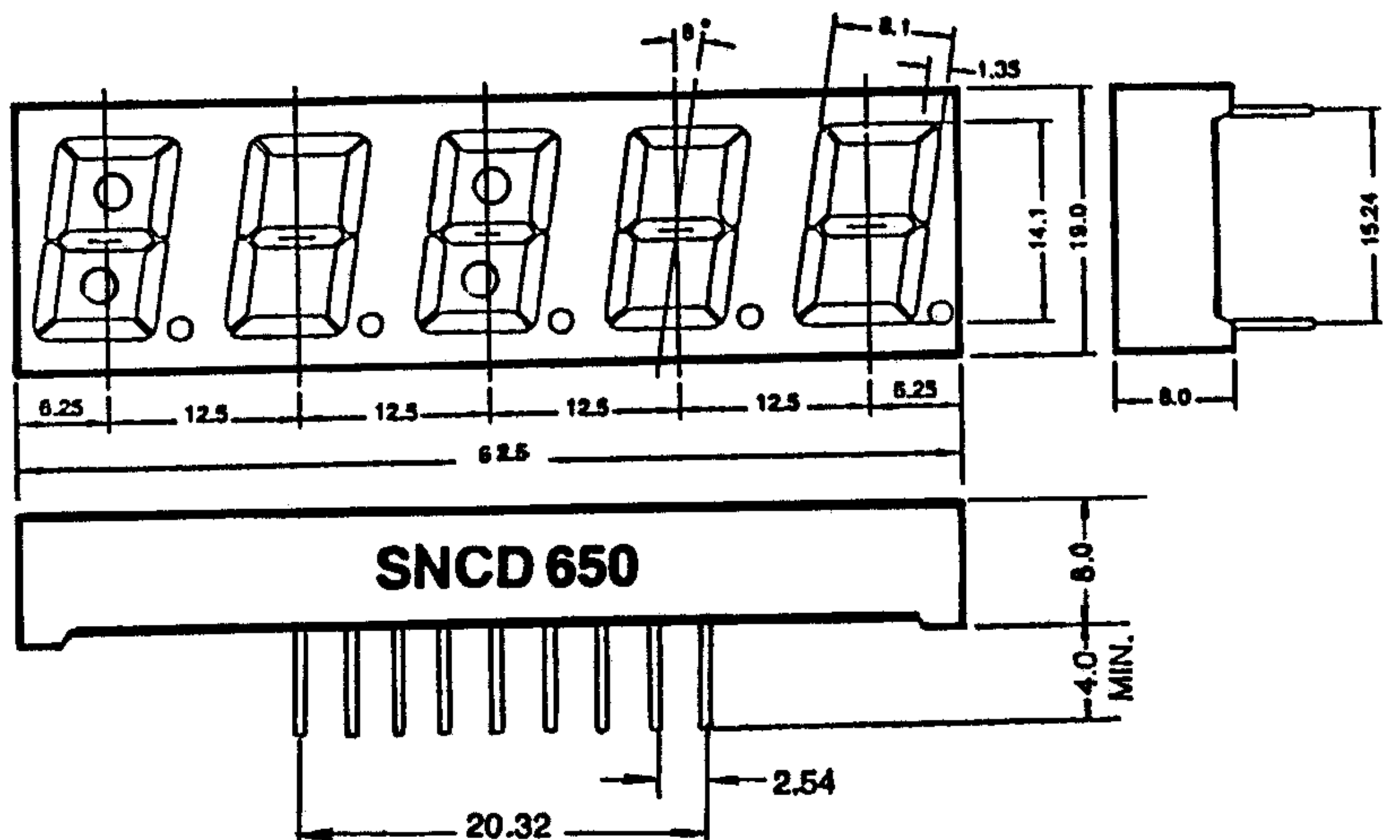
FEATURES

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 (SNCD-650) and anode-common (SNCD-657) types available

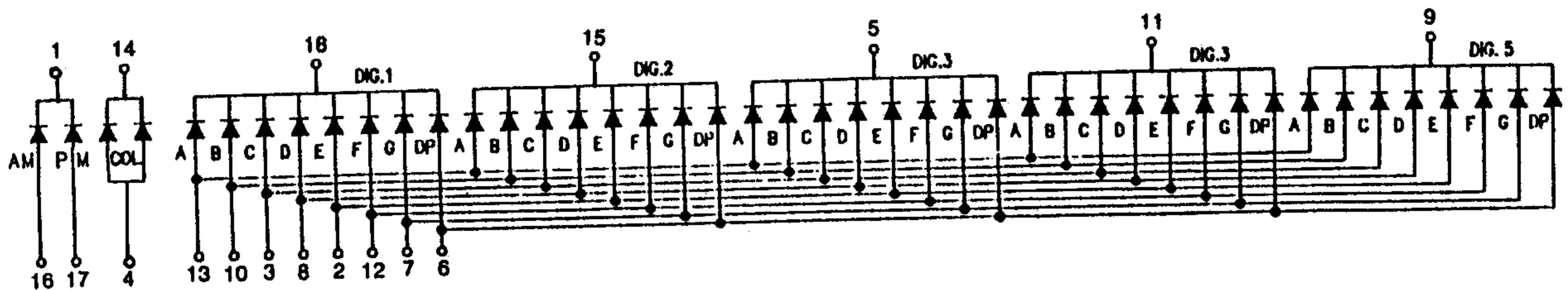
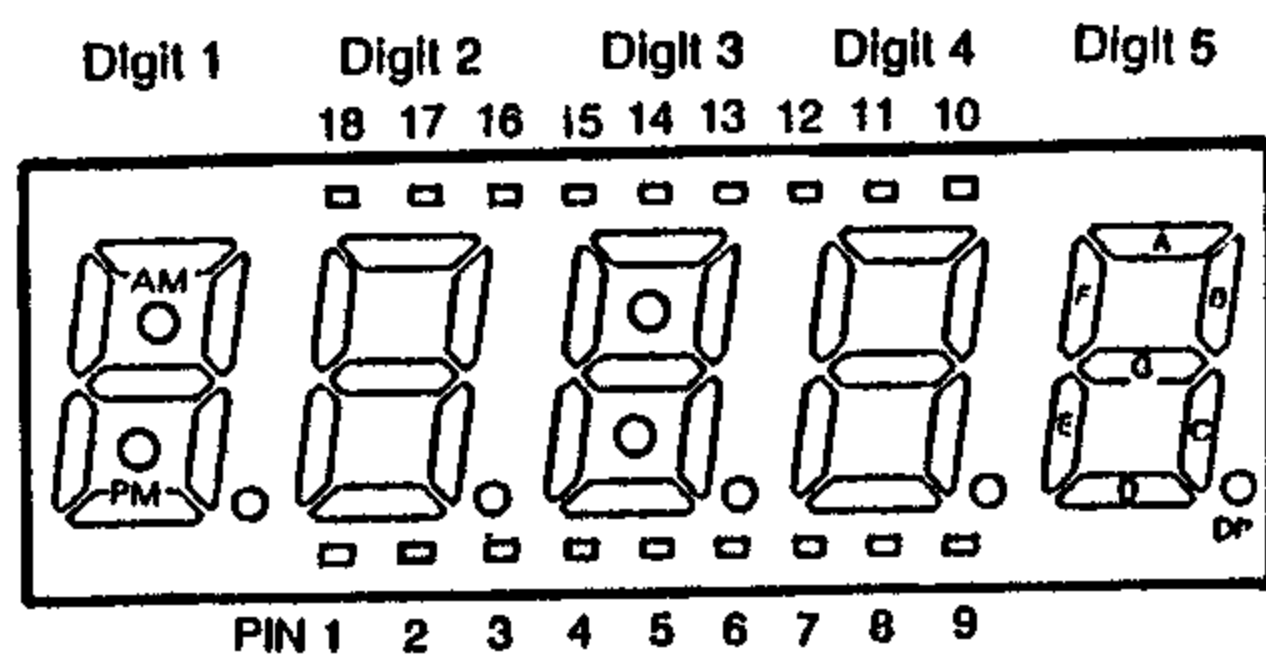


PACKAGE DIMENSIONS

SCALE 1:1 (mm)



PIN ARRANGEMENT (Top View)



SNCD-650 (Cathode Common)

SNCD-657 (Anode Common) All diodes are reversed polarity



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Red SNCD 650/657R (GaP)

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

| | | |
|-------------------------|------------|------------------|
| Power dissipation/Total | 1760 | 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 | μA |
| Luminous intensity/digit | I_V | $I_F = 10\text{mA}$ | 200 | 700 | — | μcd |
| Peak wavelength | λ_P | $I_F = 10\text{mA}$ | — | 700 | — | nm |
| Spectral line halfwidth | $\Delta\lambda$ | $I_F = 10\text{mA}$ | — | 30 | — | nm |

Orange SNCD 650/657SR (GaAsP/GaP)

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

| | | |
|-------------------------|------------|------------------|
| Power dissipation/Total | 1760 | 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 | μA |
| Luminous intensity/digit | I_V | $I_F = 10\text{mA}$ | 600 | 1300 | — | μcd |
| Peak wavelength | λ_P | $I_F = 10\text{mA}$ | — | 635 | — | nm |
| Spectral line halfwidth | $\Delta\lambda$ | $I_F = 10\text{mA}$ | — | 35 | — | nm |

Yellow-green SNCD 650/657UG (GaP)

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

| | | |
|-------------------------|------------|------------------|
| Power dissipation/Total | 1760 | 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 | μA |
| Luminous intensity/digit | I_V | $I_F = 10\text{mA}$ | 600 | 1300 | — | μcd |
| Peak wavelength | λ_P | $I_F = 10\text{mA}$ | — | 565 | — | nm |
| Spectral line halfwidth | $\Delta\lambda$ | $I_F = 10\text{mA}$ | — | 30 | — | nm |

Red SNCD 650/657UR (GaAlAs)

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

| | | |
|-------------------------|------------|------------------|
| Power dissipation/Total | 1760 | 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 | $I_F = 10\text{mA}$ | — | 1.85 | 2.1 | V |
| Reverse current/Seg | I_R | $V_R = 4\text{V}$ | — | — | 10 | μA |
| Luminous intensity/digit | I_V | $I_F = 10\text{mA}$ | 1800 | 3000 | — | μcd |
| Peak wavelength | λ_P | $I_F = 10\text{mA}$ | — | 660 | — | nm |
| Spectral line halfwidth | $\Delta\lambda$ | $I_F = 10\text{mA}$ | — | 20 | — | nm |

* Pulse Width 1 ms
Duty Cycle 1/5