

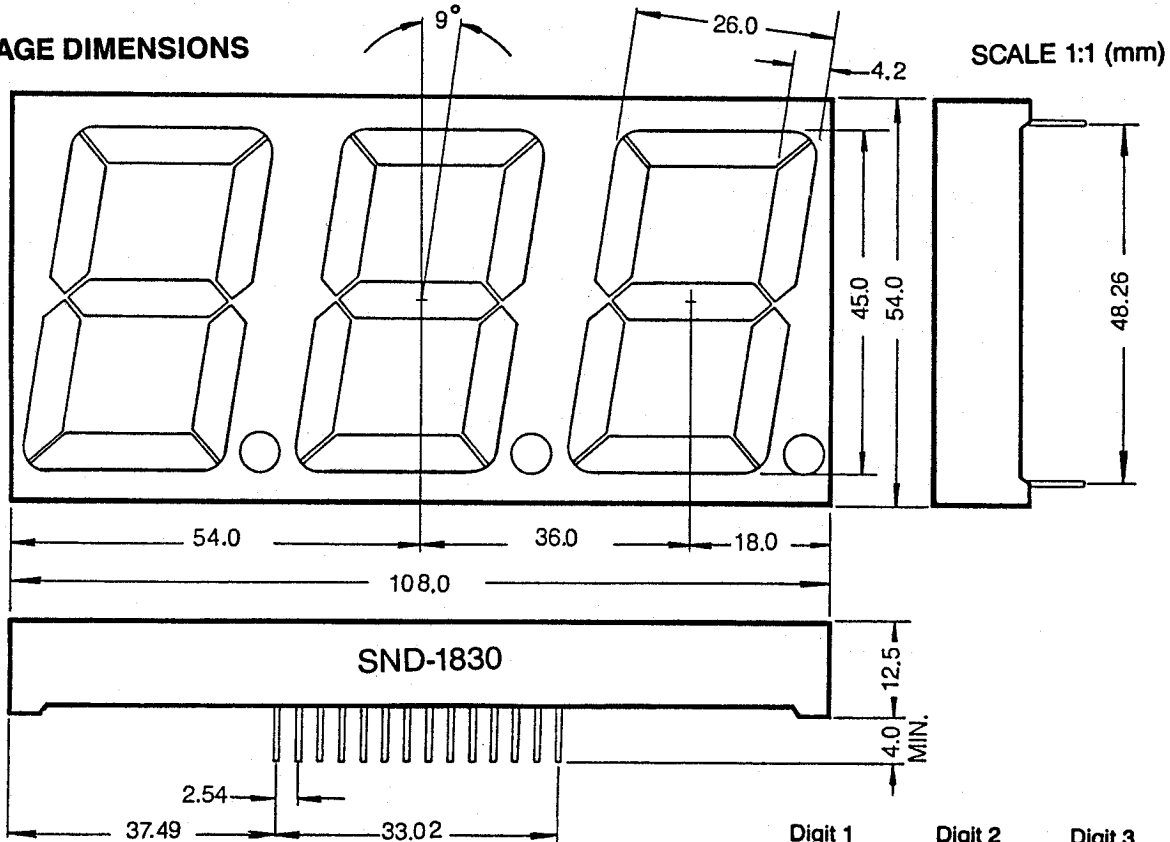
# High Reliability 1.8-inch Triple-Digits 7-Segment Numeric LED Displays

# SND-1830 SND-1837

## GENERAL DESCRIPTION

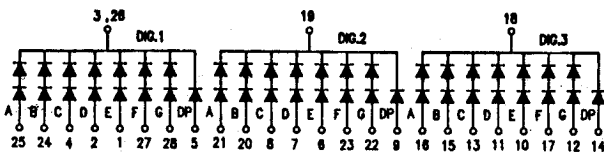
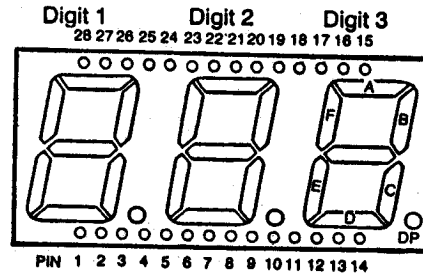
The SND-1830 and the SND-1837 series are high performance epoxy resin molded triple-digits 7-segment LED displays of which character height is 1.8 inch (45.0mm) and there is a choice of three emitting colors; red, orange and yellow-green. These series provide two configurations; Two chips in series per segment for an economical grade and three chips in series per segment for a standard unit.

## PACKAGE DIMENSIONS

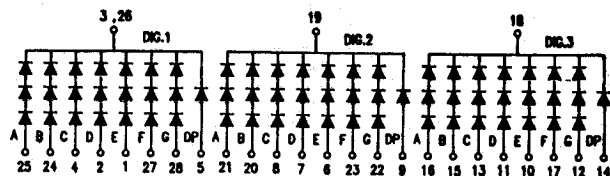


SCALE 1:1 (mm)

## PIN CONNECTIONS (Top View)



SND-1830-2 (Cathode Common)



SND-1830-3 (Cathode Common)

SND-1837-2 / SND-1837-3 (Anode Common) All diodes are reversed polarity

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### Red SND 1830UR2/1837UR2 (GaAlAs)

#### Absolute Maximum Ratings (T<sub>a</sub> = 25°C)

Power dissipation/Total	1800	mW
Power dissipation/Seg	80	mW
Forward current	20	mA
Peak forward current	60*	mA
Reverse voltage	10	V
Operating temperature	- 25 ~ + 85	°C
Storage temperature	- 55 ~ + 100	°C

#### Electrical/Optical Characteristics (T<sub>a</sub> = 25°C)

Parameter	Symbol	Conditions	Min	Typ	Max.	Unit
Forward voltage/Seg	V <sub>F</sub>	I <sub>F</sub> = 15mA	—	3.8	4.0	V
Reverse current/Seg	I <sub>R</sub>	V <sub>R</sub> = 10V	—	—	10	μA
Luminous intensity/digit	I <sub>v</sub>	I <sub>F</sub> = 15mA	450	1500	—	μcd
Peak wavelength	λ <sub>P</sub>	I <sub>F</sub> = 15mA	—	660	—	nm
Spectral line halfwidth	Δλ	I <sub>F</sub> = 15mA	—	20	—	nm

### Red SND 1830UR3/1837UR3 (GaAlAs)

#### Absolute Maximum Ratings (T<sub>a</sub> = 25°C)

Power dissipation/Total	2640	mW
Power dissipation/Seg	120	mW
Forward current	20	mA
Peak forward current	60*	mA
Reverse voltage	15	V
Operating temperature	- 25 ~ + 85	°C
Storage temperature	- 55 ~ + 100	°C

#### Electrical/Optical Characteristics (T<sub>a</sub> = 25°C)

Parameter	Symbol	Conditions	Min	Typ	Max.	Unit
Forward voltage/Seg	V <sub>F</sub>	I <sub>F</sub> = 15mA	—	5.6	6.0	V
Reverse current/Seg	I <sub>R</sub>	V <sub>R</sub> = 15V	—	—	10	μA
Luminous intensity/digit	I <sub>v</sub>	I <sub>F</sub> = 15mA	800	2500	—	μcd
Peak wavelength	λ <sub>P</sub>	I <sub>F</sub> = 15mA	—	660	—	nm
Spectral line halfwidth	Δλ	I <sub>F</sub> = 15mA	—	20	—	nm

### Orange SND 1830SR3/1837SR3 (GaAsP/GaP)

#### Absolute Maximum Ratings (T<sub>a</sub> = 25°C)

Power dissipation/Total	2640	mW
Power dissipation/Seg	120	mW
Forward current	20	mA
Peak forward current	60*	mA
Reverse voltage	15	V
Operating temperature	- 25 ~ + 85	°C
Storage temperature	- 55 ~ + 100	°C

#### Electrical/Optical Characteristics (T<sub>a</sub> = 25°C)

Parameter	Symbol	Conditions	Min	Typ	Max.	Unit
Forward voltage/Seg	V <sub>F</sub>	I <sub>F</sub> = 15mA	—	6.0	6.6	V
Reverse current/Seg	I <sub>R</sub>	V <sub>R</sub> = 15V	—	—	10	μA
Luminous intensity/digit	I <sub>v</sub>	I <sub>F</sub> = 15mA	300	800	—	μcd
Peak wavelength	λ <sub>P</sub>	I <sub>F</sub> = 15mA	—	635	—	nm
Spectral line halfwidth	Δλ	I <sub>F</sub> = 15mA	—	35	—	nm

### Yellow-green SND 1830UG3/1837UG3 (GaP)

#### Absolute Maximum Ratings (T<sub>a</sub> = 25°C)

Power dissipation/Total	2640	mW
Power dissipation/Seg	120	mW
Forward current	20	mA
Peak forward current	60*	mA
Reverse voltage	15	V
Operating temperature	- 25 ~ + 85	°C
Storage temperature	- 55 ~ + 100	°C

#### Electrical/Optical Characteristics (T<sub>a</sub> = 25°C)

Parameter	Symbol	Conditions	Min	Typ	Max.	Unit
Forward voltage/Seg	V <sub>F</sub>	I <sub>F</sub> = 15mA	—	6.3	6.9	V
Reverse current/Seg	I <sub>R</sub>	V <sub>R</sub> = 15V	—	—	10	μA
Luminous intensity/digit	I <sub>v</sub>	I <sub>F</sub> = 15mA	350	1000	—	μcd
Peak wavelength	λ <sub>P</sub>	I <sub>F</sub> = 15mA	—	565	—	nm
Spectral line halfwidth	Δλ	I <sub>F</sub> = 15mA	—	30	—	nm

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