

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

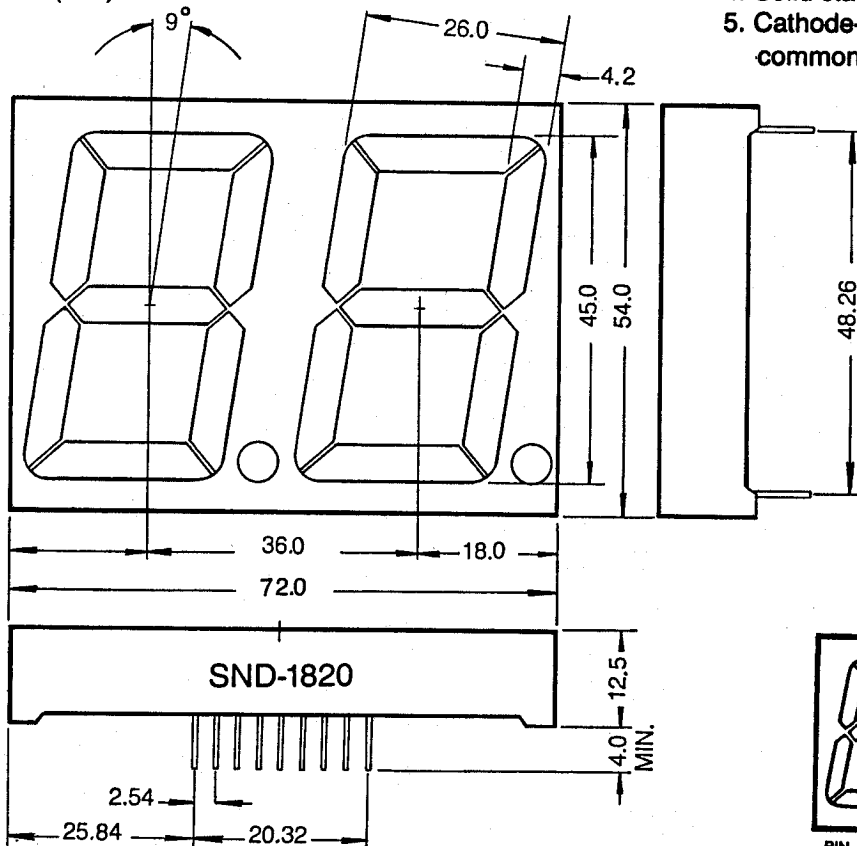
# SND-1820 SND-1827

## GENERAL DESCRIPTION

The SND-1820 and the SND-1827 series are high performance epoxy resin molded dual-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

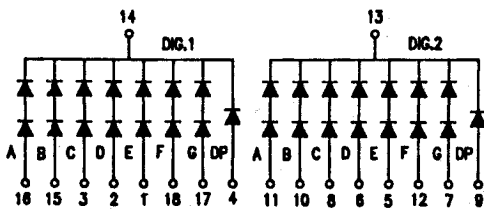
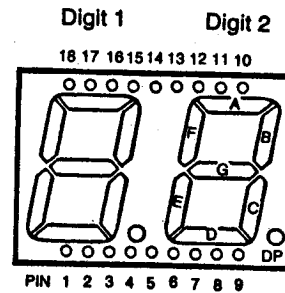
SCALE 1:1 (mm)



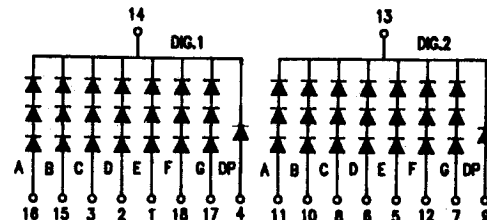
## FEATURES

1. High brightness with high contrast
2. Uniform brightness and wide angle viewing
3. Low power consumption
4. Solid state stability and long operation life
5. Cathode-common (SND-1820) and anode-common (SND-1827) types available

## PIN CONNECTIONS (Top View)



SND-1820-2 (Cathode Common)



SND-1820-3 (Cathode Common)

SND-1827-2 (Anode Common)

All diodes are reversed polarity

SND-1827-3 (Anode Common)

All diodes are reversed polarity

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### Red SND 1820UR2/1827UR2 (GaAlAs)

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

Power dissipation/Total	1200	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 1820UR3/1827UR3 (GaAlAs)

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

Power dissipation/Total	1760	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 1820SR3/1827SR3 (GaAsP/GaP)

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

Power dissipation/Total	1760	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 1820UG3/1827UG3 (GaP)

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

Power dissipation/Total	1760	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