

# High Brightness 1.8-inch 7-Segment Numeric LED Displays

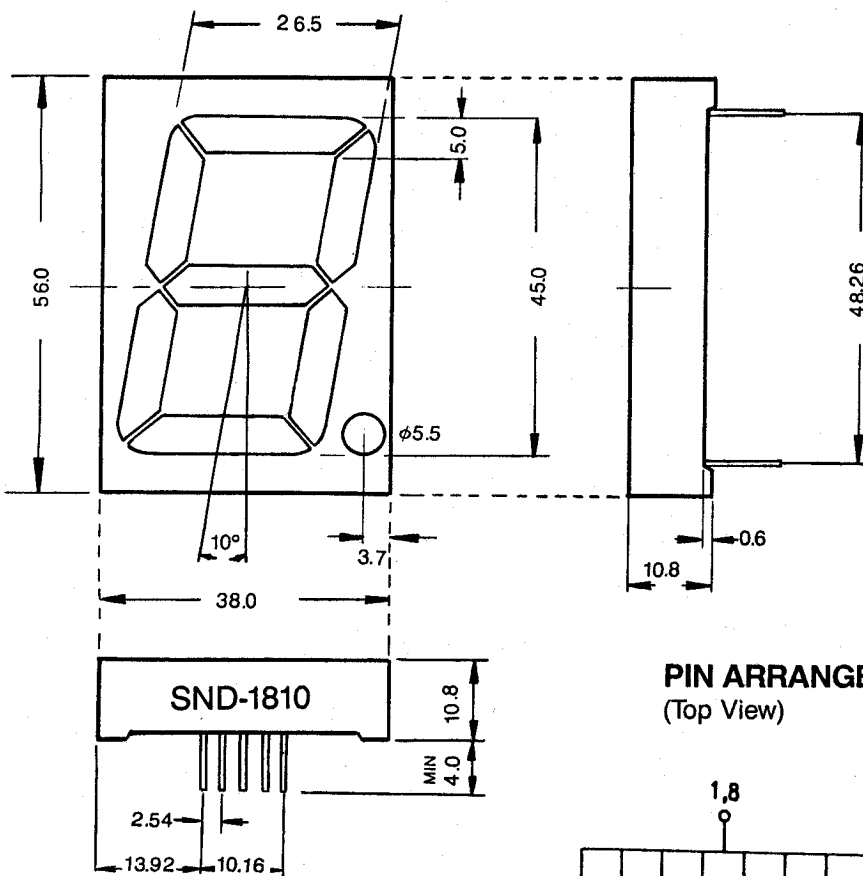
# SND-1810 SND-1817

## GENERAL DESCRIPTION

The SND-1810 and SND-1817 series are high reliability epoxy resin molded large 7 segment numeric LED displays which character height is 1.8 inch (45.0 mm) and available in orange, yellow-green and red emitting colors. There is a choice of two configurations; two chips are connected in series as a standard and four chips are connected in series-parallel as a special unit.

## PACKAGE DIMENSIONS

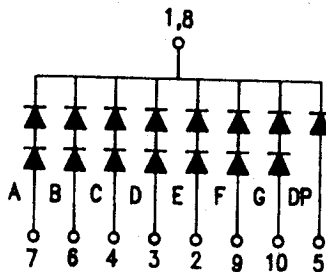
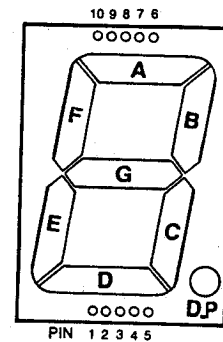
Scale 1 : 1 (mm)



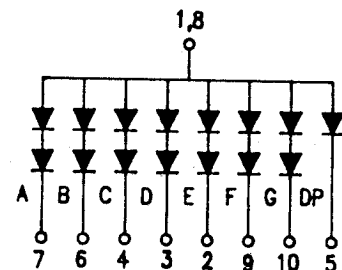
## FEATURES

1. High brightness with high contrast
2. Uniform brightness and wide angle viewing
3. Solid state stability and long operation life
4. Cathode common (SND-1810) and anode common (SND-1817) types available.

## PIN ARRANGEMENT (Top View)



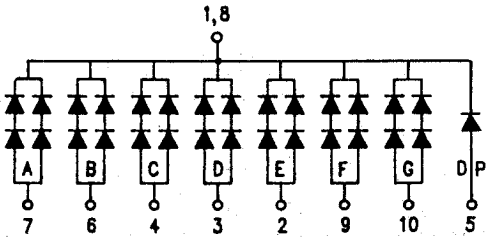
SND-1810 (Cathode Common)



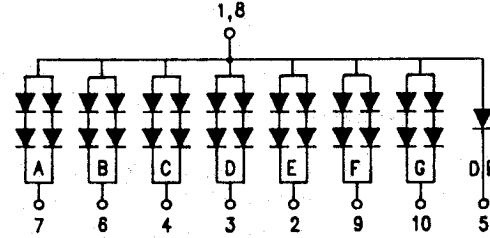
SND-1817 (Anode Common)

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SND-1810 -2(Cathode Common)



SND-1817 -2(Anode Common)

### Red SND 1810/1817UR (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

### Orange SND 1810SR2/1817SR2 (GaAsP/GaP)

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

Power dissipation/Total	2400	mW
Power dissipation/Seg	160	mW
Forward current	40	mA
Peak forward current	120*	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> = 30mA	—	4.2	4.4	V
Reverse current/Seg	I <sub>R</sub>	V <sub>R</sub> = 10V	—	—	20	μA
Luminous intensity/digit	I <sub>v</sub>	I <sub>F</sub> = 30mA	700	1300	—	μcd
Peak wavelength	λ <sub>P</sub>	I <sub>F</sub> = 30mA	—	635	—	nm
Spectral line halfwidth	Δλ	I <sub>F</sub> = 30mA	—	100	—	nm

### Yellow-green SND 1810UG2/1817UG2 (GaP)

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

Power dissipation/Total	2400	mW
Power dissipation/Seg	160	mW
Forward current	40	mA
Peak forward current	120*	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> = 30mA	—	4.3	4.6	V
Reverse current/Seg	I <sub>R</sub>	V <sub>R</sub> = 10V	—	—	20	μA
Luminous intensity/digit	I <sub>v</sub>	I <sub>F</sub> = 30mA	800	1500	—	μcd
Peak wavelength	λ <sub>P</sub>	I <sub>F</sub> = 30mA	—	565	—	nm
Spectral line halfwidth	Δλ	I <sub>F</sub> = 30mA	—	30	—	nm

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