

7-Segment Numeric Displays

Device No.	Character Height Inches	Polarity	Color	Description	Decimal Point	V_F $I_F = 20 \text{ mA/Seg}$ V	Luminous/Typ Intensity/Seg $I_F = 20 \text{ mA}$ μcd	Data Sheet Page No.
FND350	.362	CA	Red	7-Segment Display	RH	1.7	450	3-5
FND357	.362	CC	Red	7-Segment Display	RH	1.7	450	3-5
FND358	.362	CC	Red	Overflow ± 1 Digit	RH	1.7	450	3-9
FND360	.362	CA	Red	7-Segment Display	RH	1.7	900	3-5
FND367	.362	CC	Red	7-Segment Display	RH	1.7	900	3-5
FND368	.362	CC	Red	Overflow ± 1 Digit	RH	1.7	900	3-9
FND500	.500	CC	Red	7-Segment Display	RH	1.7	600	3-12
FND501	.500	CC	Red	Overflow ± 1 Digit	RH	1.7	600	3-15
FND507	.500	CA	Red	7-Segment Display	RH	1.7	600	3-12
FND508	.500	CA	Red	Overflow ± 1 Digit	RH	1.7	600	3-15
FND530	.500	CC	Grn	7-Segment Display	RH	2.2	2000	3-18
FND531	.500	CC	Grn	Overflow ± 1 Digit	RH	2.2	2000	3-21
FND537	.500	CA	Grn	7-Segment Display	RH	2.2	2000	3-18
FND538	.500	CA	Grn	Overflow ± 1 Digit	RH	2.2	2000	3-21
FND540	.500	CC	Yel	7-Segment Display	RH	2.2	1000	3-18
FND541	.500	CC	Yel	Overflow ± 1 Digit	RH	2.2	2000	3-21
FND547	.500	CA	Yel	7-Segment Display	RH	2.2	1000	3-18
FND548	.500	CA	Yel	Overflow ± 1 Digit	RH	2.2	2000	3-21
FND550	.500	CC	Amb	7-Segment Display	RH	2.2	2000	3-18
FND551	.500	CC	Amb	Overflow ± 1 Digit	RH	2.2	2000	3-21
FND557	.500	CA	Amb	7-Segment Display	RH	2.2	2000	3-18
FND558	.500	CA	Amb	Overflow ± 1 Digit	RH	2.2	2000	3-21
FND560	.500	CC	Red	7-Segment Display	RH	2.2	1200	3-12
FND561	.500	CC	Red	Overflow ± 1 Digit	RH	1.7	1200	3-15
FND567	.500	CA	Red	7-Segment Display	RH	1.7	1200	3-12
FND568	.500	CA	Red	Overflow ± 1 Digit	RH	1.7	1200	3-15
FND800	.800	CC	Red	7-Segment Display	RH	1.7	1100	3-24
FND807	.800	CA	Red	7-Segment Display	RH	1.7	1100	3-24
MAN71A	.300	CA	Red	7-Segment Display	RH	1.6	250	3-28
MAN72A	.300	CA	Red	7-Segment Display	LH	1.6	250	3-28
MAN73A	.300	CA	Red	Overflow ± 1 Digit	None	1.7	450	3-28
MAN74A	.300	CC	Red	7-Segment Display	RH	1.6	250	3-28

Red GaAsP 0.8-Inch 7-Segment Numeric LED Display

Optoelectronic Products

FND800 FND807

General Description

The FND800 and FND807 are red GaAsP 7-Segment LED Displays with a nominal 0.8-inch character height. These displays are for applications where the viewer is within thirty feet of the display.

**Low Current Requirements of Typically 10 mA/
Segment**

Low Forward Voltage Typically $V_F = 1.7$ V
Fits Standard DIP Sockets With 0.6-Inch Pin Row
Decimal Point On Lower Right-Hand Side
Overflow Point On Upper Left-Hand Side With
Digit Reversed

Maximized Contrast Ratio With Integral Lens Cap
Horizontal Stacking 1-Inch Typical

FND800—Common Cathode, Right-Hand
Decimal Point

FND807—Common Anode, Right-Hand
Decimal Point

Absolute Maximum Ratings

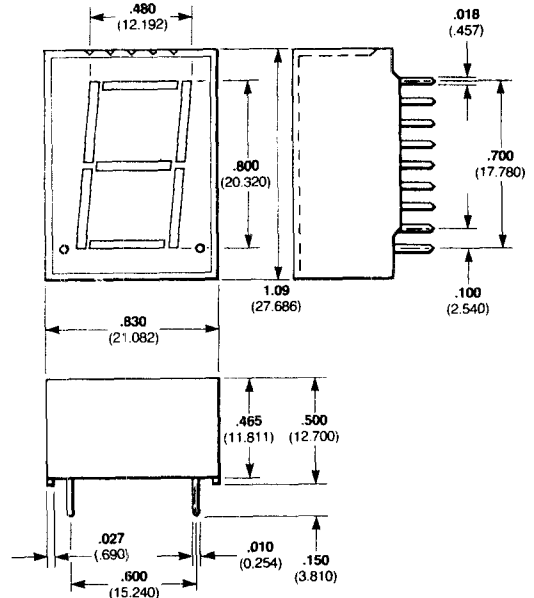
Maximum Temperature and Humidity

Storage Temperature	-25°C to +85°C
Operating Temperature	-25°C to +85°C
Pin Temperature (Soldering, 5 s)	260°C
Relative Humidity at 65°C	98%

Maximum Voltage and Currents

V_R	Reverse Voltage	3.0 V
I_F	Average Forward dc Current/Segment or Decimal Point	25 mA
	Derate from 25°C Ambient Temperature	0.3 mA/°C
I_{pk}	Peak Current/Segment or Decimal Point (100 μ s pulse width) 1000 pps, $T_A = 25^\circ\text{C}$	200 mA

Package Outline



Notes

All dimensions in inches bold and millimeters (parentheses)

Tolerance unless specified = $\pm .015$ ($\pm .381$)

For polarity indication the surface is ribbed.

The unlit LED segments cannot necessarily be seen through the lens cap.

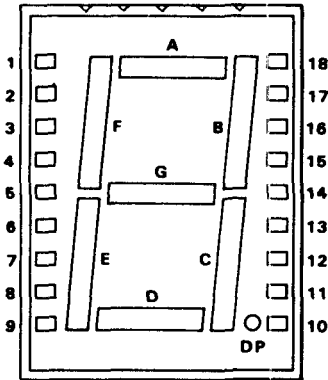
Lens cap color is red for red LED.

Pins 4, 6, 12 and 17 are common.

Connection Diagram Typical Electrical Characteristics

FND800 FND807

Pin Connections (Top View)



Pin	FND800	FND807
1	Omitted	Omitted
2	Segment A	Segment A
3	Segment F	Segment F
4	Common Cathode	Common Anode
5	Segment E	Segment E
6	Common Cathode	Common Anode
7	NC	NC
8	Omitted	Omitted
9	Omitted	Omitted
10	Decimal Point	Decimal Point
11	Segment D	Segment D
12	Common Cathode	Common Anode
13	Segment C	Segment C
14	Segment G	Segment G
15	Segment B	Segment B
16	Omitted	Omitted
17	Common Cathode	Common Anode
18	Omitted	Omitted

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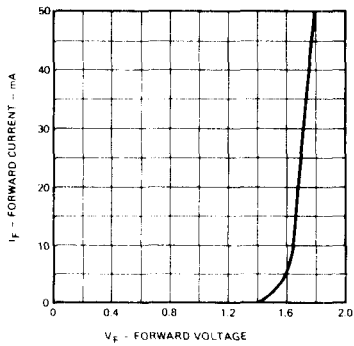
Electrical and Radiant Characteristics $T_A = 25^\circ\text{C}$

Symbol	Characteristic	Min	Typ	Max	Units	Test Conditions
V_F	Forward Voltage	1.5	1.7	2.0	V	$I_F = 20 \text{ mA}$
BV_R	Reverse Breakdown Voltage	3.0	12		V	$I_R = 1.0 \text{ mA}$
I_O	Axial Luminous Intensity, Average Each Segment	380	1100		μcd	$I_F = 20 \text{ mA}$
ΔI_O	Intensity Matching, Segment-to-Segment Intensity Matching Within One Intensity Class		± 33 ± 20		% %	$I_F = 20 \text{ mA}$ $I_F = 20 \text{ mA}$, all segments at once
L_O	Average Segment Luminance		64		ftL	$I_F = 20 \text{ mA}$
$\theta_{1/2}$	Viewing Angle to Half Intensity		± 25		degrees	
λ_{pk}	Peak Wavelength		665		nm	$I_F = 20 \text{ mA}$

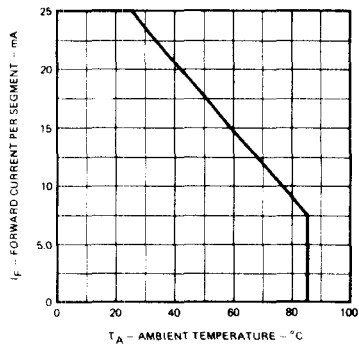
Typical Electrical Characteristic Curves

FND800 FND807

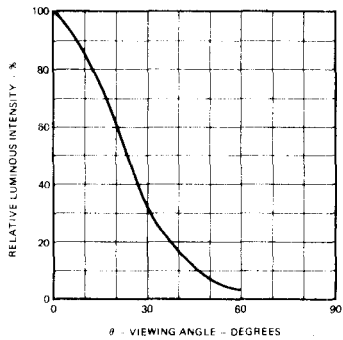
Forward Current vs Forward Voltage



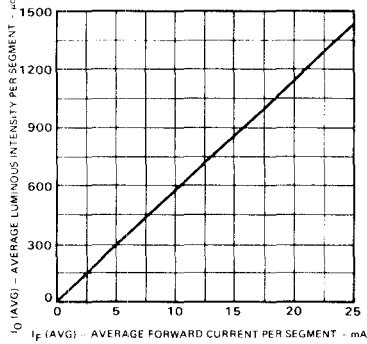
Maximum Average Current Rating vs Ambient Temperature



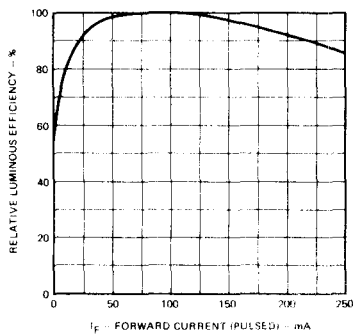
Angular Distribution of Luminous Intensity



Average Luminous Intensity vs Average Forward Current



Relative Luminous Efficiency (mcd Per mA) vs Peak Current Per Segment



Relative Luminous Intensity vs Junction Temperature

