Red GaAsP 0.8-Inch 7-Segment Numeric LED Display

FND800 FND807

Optoelectronic Products

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

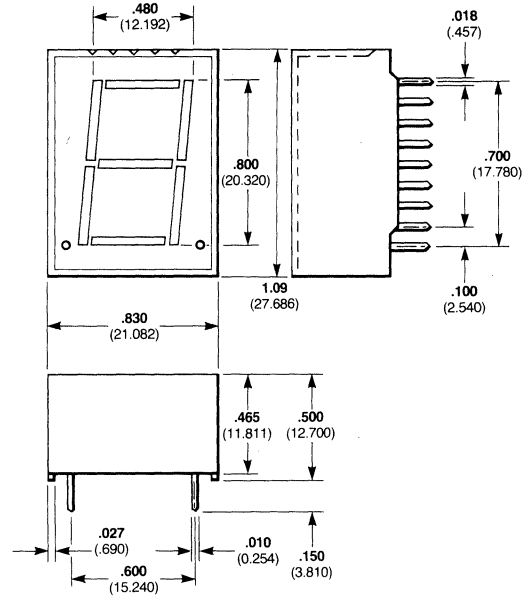
Maximum Temperature and Humidity

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 μs pulse width) 1000 pps, T_A = 25°C	200 mA

Package Outline

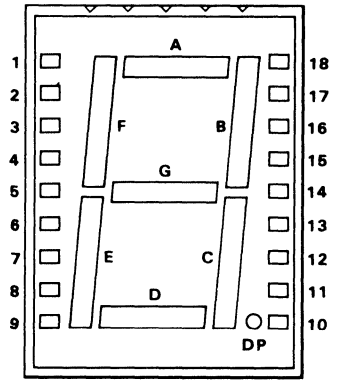


Notes
All dimensions in inches **bold** and millimeters (parentheses)
Tolerance unless specified = ±**.015** (±.381)
For polarity indication the surface is ribbed.
The unlit LED segments cannot necessarily be seen through the lens cap.
Lens cap color is red for red LED.
Pins 4, 6, 12 and 17 are common.

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

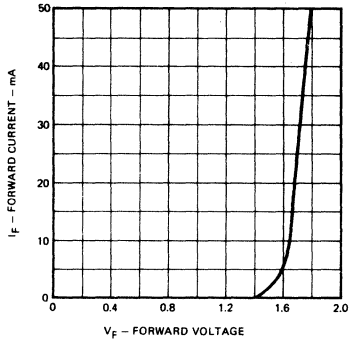
Electrical and Radiant Characteristics $T_A = 25°C$

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

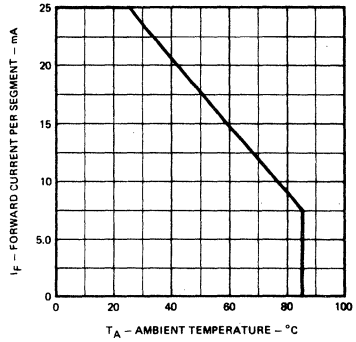
Typical Electrical Characteristic Curves

FND800
FND807

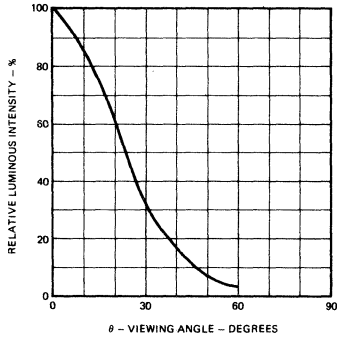
Forward Current vs Forward Voltage



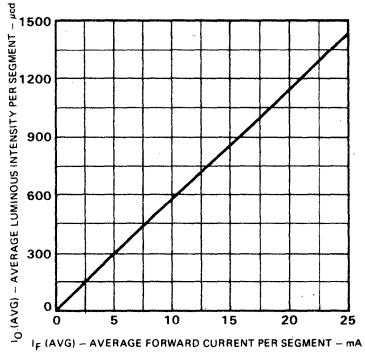
Maximum Average Current Rating vs Ambient Temperature



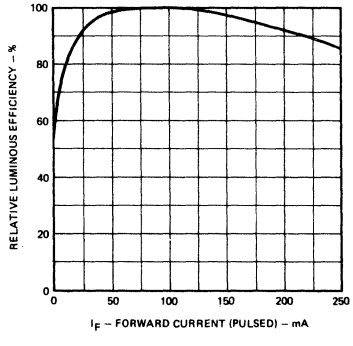
Angular Distribution of Luminous Intensity



Average Luminous Intensity vs Average Forward Current



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



Relative Luminous Intensity vs Junction Temperature