

# Red GaAsP 0.5-Inch 7-Segment Numeric LED Displays

Optoelectronic Products

## General Description

The FND500, FND507, FND560 and FND567 are red GaAsP single-digit 7-Segment LED displays with a 0.5-inch character height. These displays are designed for applications in which the viewer is within twenty feet of the display.

**Low Forward Voltage—Typically  $V_F = 1.7$  V**  
**Fits Standard DIP Sockets with 0.6-Inch Pin Row**  
**Maximized Contrast Ratio With Integral Lens Cap**  
**Horizontal Stacking 0.6-Inch Minimum,**

**1-Inch Typical**

**FND560/567 Suitable For Use In High  
Ambient Light**

**FND500 Common Cathode, Right-Hand  
Decimal Point**

**FND507 Common Anode, Right-Hand Decimal Point**  
**FND560 Common Cathode, Right-Hand Decimal**

**Point, High Brightness**

**FND567 Common Anode, Right-Hand Decimal  
Point, High Brightness**

## Absolute Maximum Ratings

### Maximum Temperature and Humidity

**Storage Temperature**  $-25^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$

**Operating Temperature**  $-25^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$

**Pin Temperature (Soldering, 5 s)**  $260^{\circ}\text{C}$

**Relative Humidity at  $65^{\circ}\text{C}$**  98%

### Maximum Voltage and Currents

**$V_R$  Reverse Voltage** 3.0 V

**$I_F$  Average Forward dc  
Current/Segment or  
Decimal Point** 25 mA

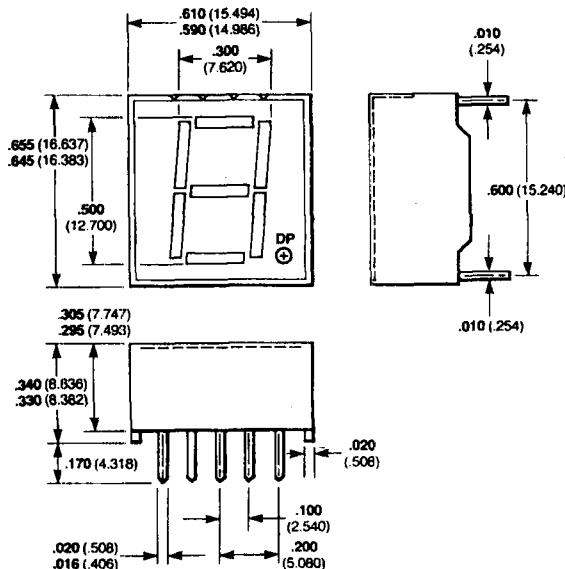
**Derate from  $25^{\circ}\text{C}$**   $0.3 \text{ mA} / ^{\circ}\text{C}$

**$I_{pk}$  Peak Forward Current  
Segment or Decimal Point  
( $100 \mu\text{s}$  pulse width)** 200 mA

**$1000 \text{ pps}, T_A = 25^{\circ}\text{C}$**

# FND500, FND507 FND560, FND567

## Package Outline



### Notes

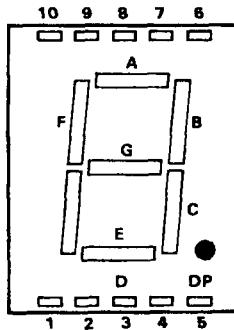
All dimensions in inches bold and millimeters (parentheses)

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

# Connection Diagram Typical Electrical Characteristics

FND500, FND507  
FND560, FND567

## Pin Connections (Front View)



Pin	FND507/567	FND500/560
1	Segment E	Segment E
2	Segment D	Segment D
3	Common Anode	Common Cathode
4	Segment C	Segment C
5	Decimal Point	Decimal Point
6	Segment B	Segment B
7	Segment A	Segment A
8	Common Anode	Common Cathode
9	Segment F	Segment F
10	Segment G	Segment G

## 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 FND500, FND507 FND560, FND567	300	600		$\mu\text{cd}$	$I_F = 20 \text{ mA}$
$\Delta I_O$	Intensity Matching, Segment-to-Segment Intensity Matching Within One Intensity Class	740	1200		$\mu\text{cd}$	$I_F = 20 \text{ mA}$
		$\pm 33$	$\pm 20$		%	$I_F = 20 \text{ mA}$
					%	$I_F = 20 \text{ mA}$ , all segments at once
$L_O$	Average Segment Luminance FND500, FND507 FND560, FND567	35	70		ftL	$I_F = 20 \text{ mA}$
$\theta_{1/2}$ $\lambda_{pk}$	Viewing Angle to Half Intensity Peak Wavelength	$\pm 27$	665		degrees nm	$I_F = 20 \text{ mA}$