

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

Optoelectronic Products

## FND500, FND507 FND560, FND567

### 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  $V_F = 1.7\text{ V}$   
**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

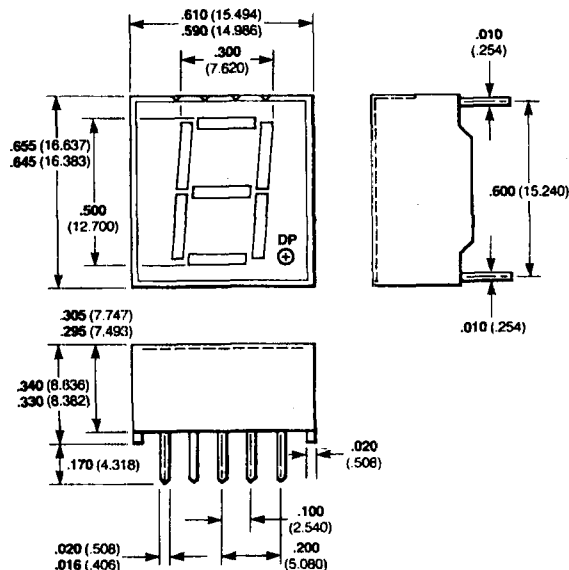
#### Maximum Temperature and Humidity

Storage Temperature	-25°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 Forward Current Segment or Decimal Point (100 $\mu$ s pulse width) 1000 pps, $T_A = 25^\circ\text{C}$	200 mA

### Package Outline



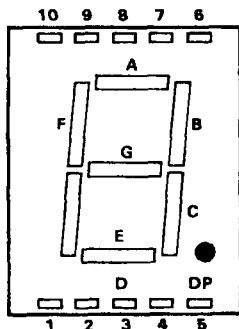
#### Notes

All dimensions in inches bold and millimeters (parentheses)  
 Tolerance unless specified =  $\pm .015$  ( $\pm .381$ )

# Connection Diagram Typical Electrical Characteristics

## FND500, FND507 FND560, FND567

### Pin Connections (Front View)



### Pin FND507/567

- 1 Segment E
- 2 Segment D
- 3 Common Anode
- 4 Segment C
- 5 Decimal Point
- 6 Segment B
- 7 Segment A
- 8 Common Anode
- 9 Segment F
- 10 Segment G

### FND500/560

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