

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 0.5-Inch ± 1 LED Displays

Optoelectronic Products

FND501, FND508 FND561, FND568

General Description

The FND501, FND561, FND508 and FND568 are red GaAsP overflow LED displays with a nominal 0.5-inch character height. These displays are for applications where 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

The FND561 And FND568 Are Suitable For Applications in High Ambient Light

FND501—Common Cathode, Right-Hand Decimal Point

FND508—Common Anode, Right-Hand Decimal Point

FND561—Common Cathode, Right-Hand Decimal Point, High Brightness

FND568—Common Anode, Right-Hand Decimal Point, High Brightness

Absolute Maximum Ratings

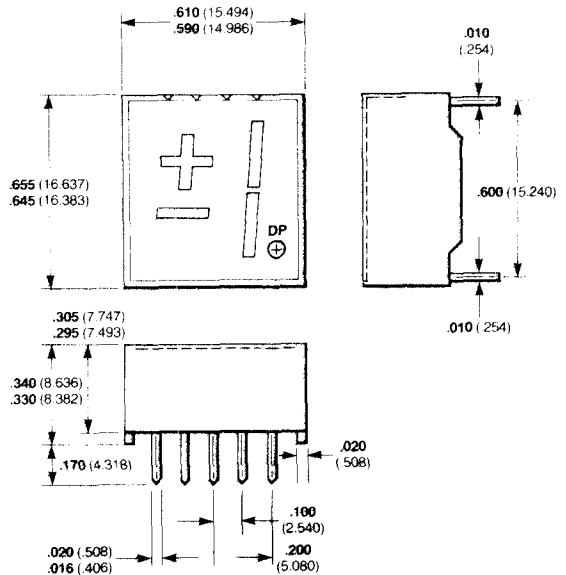
Maximum Temperature and Humidity

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 μ s pulse width)	200 mA
	1000 pps, $T_A = 25^\circ\text{C}$	

Package Outline



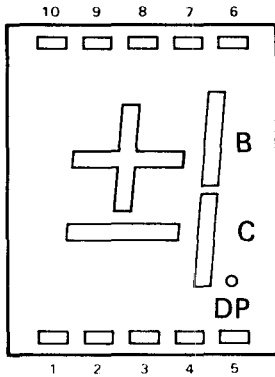
Notes

All dimensions in inches bold and millimeters (parentheses) Tolerance unless specified = $\pm .015$ (0.381)
 For polarity indication the surface is ribbed
 The unit LED segments cannot necessarily be seen through the lens cap
 Lens cap color is red for red LED
 Pins 3 and 8 are common

Connection Diagram Typical Electrical Characteristics

FND501, FND508 FND561, FND568

Pin Connections (Top View)



Pin FND501/561

- 1 Minus
- 2 Cathode \pm
- 3 Segment C
- 4 Cathode 1/DP
- 5 DP
- 6 Segment B
- 7 Cathode 1/DP
- 8 Cathode \pm
- 9 Plus
- 10 NC

FND508/568

- Minus
- Anode \pm
- Segment C
- Anode 1/DP
- DP
- Segment B
- Anode 1/DP
- Anode \pm
- Plus
- NC

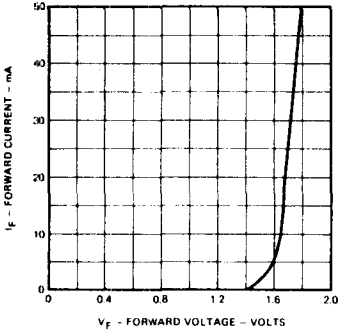
Electrical and Radiant Characteristics $T_A = 25^\circ\text{C}$

Symbol	Characteristic	Min	Typ	Max	Units	Test Conditions
V_F	Forward Voltage		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, Each Segment FND501, FND508	300	600		μcd	$I_F = 20 \text{ mA}$
	FND561, FND568	740	1200		μcd	$I_F = 20 \text{ mA}$
ΔI_O	Intensity Matching, Segment-to-Segment		± 33		%	$I_F = 20 \text{ mA}$
	Intensity Matching Within One Intensity Class		± 20		%	$I_F = 20 \text{ mA}$, all segments at once
L_O	Average Segment Luminance FND501, FND508		35		ftL	$I_F = 20 \text{ mA}$
	FND561, FND568		70		ftL	$I_F = 20 \text{ mA}$
$\theta_{1/2}$	Viewing Angle to Half Intensity		± 27		degrees	
λ_{pk}	Peak Wavelength		665		nm	$I_F = 20 \text{ mA}$

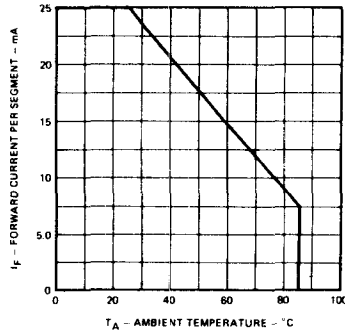
Typical Electrical Characteristic Curves

FND501, FND508 FND561, FND568

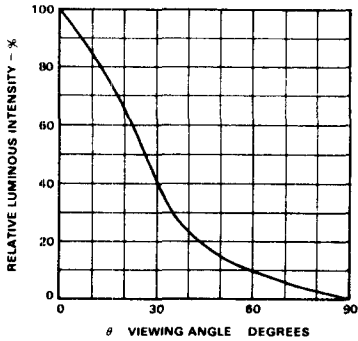
Forward Current vs Forward Voltage



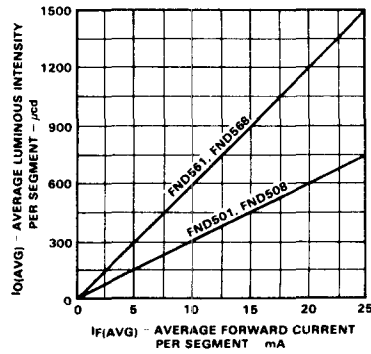
Maximum Average Current Rating vs Ambient Temperature



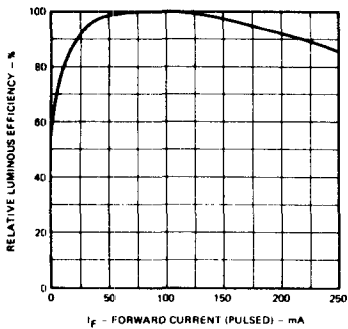
Angular Distribution of Luminous Intensity



Average Luminous Intensity vs Average Forward Current



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



Relative Luminous Intensity vs Junction Temperature

