



Endicott Research Group, Inc.

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# SF2R3766SHF



## Specifications and Applications Information

08/17/10

### Smart Force LED Backlight Unit

The ERG *Smart Force Series* of LED backlight units are specifically designed for applications which require wide dimming and LCD brightness stability. The SF2R3766SHF is designed to provide backlighting for the NEC NL10276BC30-18C display. When using the SFD2CB3965F driver with SF2R3766SHF rails, a brightness of 2000 cd/m<sup>2</sup> (nits) is achieved at 130 mA.

Designed, manufactured and supported within the USA, the SFR features:

- ✓ Custom rails for specific LCDs
- ✓ High dimming ratio
- ✓ Set of two rails: top and bottom
- ✓ One year warranty



Components are shown for reference only. Actual product may differ from that shown.

#### Connector

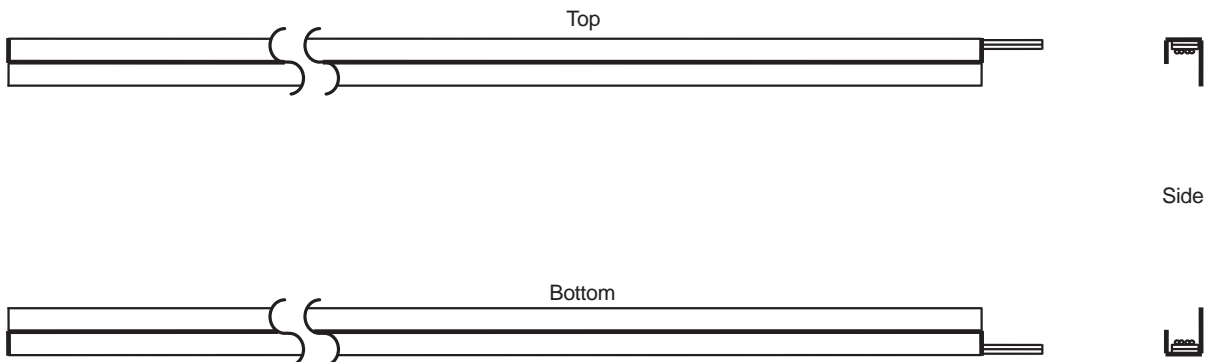
##### Input Connector

Molex J1  
51021-0400

J1-1 Cathode 1  
 J1-2 Anode 1  
 J1-3 Cathode 2  
 J1-4 Anode 2

#### Package Configuration

(shown without wires)



Components are shown for reference only. Actual product may differ from that shown.

**Absolute Maximum Ratings**

Rating	Symbol	Value	Units
Forward Current <sup>(1)</sup>	$I_F$	350	mA
Pulse Forward Current <sup>(1) (2)</sup>	$I_P$	600	mA
Component Surface Temperature	$T_s$	-40 to +105	°C
Storage Temperature	$T_{stg}$	-40 to +100	°C

**Maximum Recommended Operating Conditions <sup>(3)</sup>**

Rating	Symbol	Value	Units
Forward Current <sup>(4) (5)</sup>	$I_F$	200	mA
Pulse Forward Current	$I_P$	400	mA
Component Surface <sup>(5)</sup> Temperature	$T_s$	-40 to +100	°C

**Electrical Characteristics**

Unless otherwise noted  $V_{in} = 48.00$  Volts dc and  $T_a = 25^\circ\text{C}$

Characteristic	Symbol	Min	Typ	Max	Units
Number of Strings	-	-	2	-	-
LED Forward Voltage	$V_F$	-	2.9	3.5	V
String voltage <sup>(6)</sup>	$V_S$	-	46.4	56.0	V

Specifications subject to change without notice.

- (1) Current is specified per string.
- (2) Maximum duty cycle is 10% for pulsed current drive, pulse width  $\leq 10\text{ms}$ .
- (3) Operation above maximum recommended operating conditions will require additional thermal management actions and will decrease LED lifetime.
- (4) Strings are to be driven with a current source.
- (5) Operation at or below the maximum recommended component surface temperature and forward current rating allows presumption of a 50,000 hour LED lifetime. (Lifetime is time to 70% Lumen maintenance).
- (6) Maximum V at  $-30^\circ\text{C}$ .



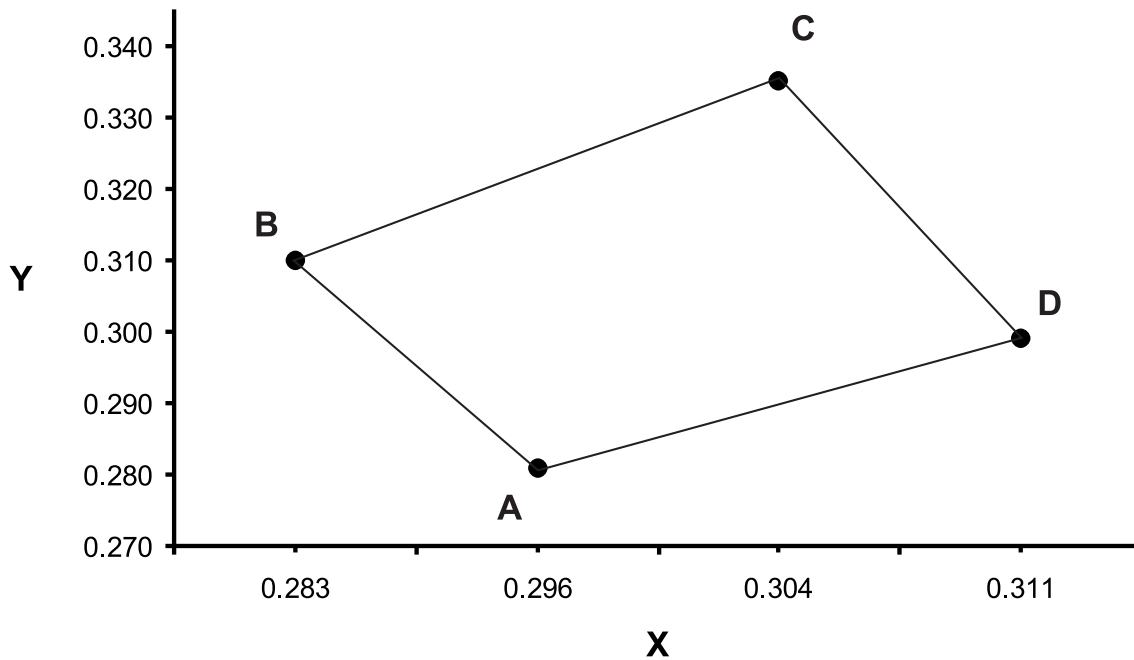
**Backlight Chromaticity Coordinate Boundaries** <sup>(1)</sup>

(Ta = 25°C, I<sub>F</sub> = 100mA)

	A	B	C	D
X	0.296	0.283	0.304	0.311
Y	0.281	0.310	0.335	0.299

(1) Each column (A, B, C and D) represents an X,Y coordinate on the CIE 1931 chromaticity diagram.

CIE 1931 CHROMATICITY DIAGRAM



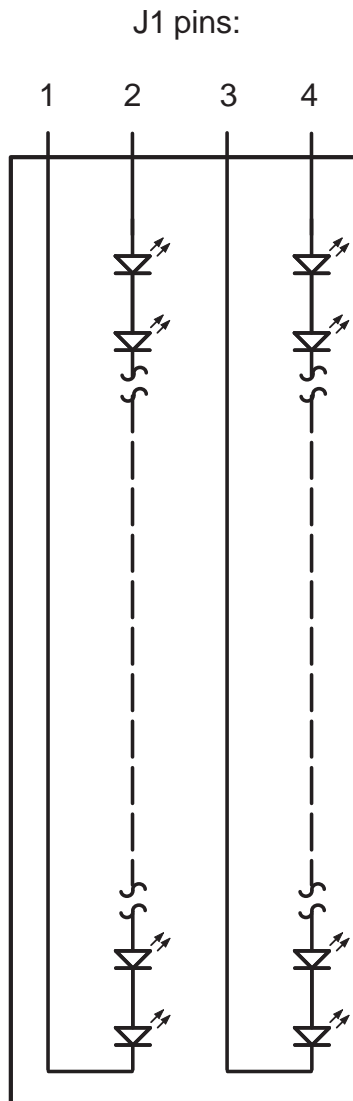


Figure 1  
SFR Connectivity



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