



Endicott Research Group, Inc.

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SF2R3734F



Specifications and Applications Information

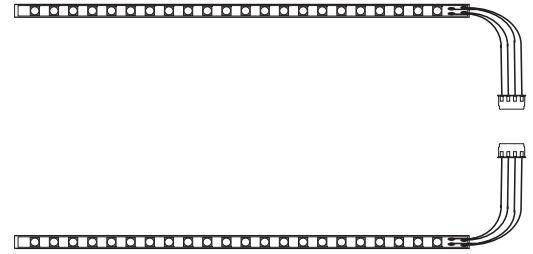
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Smart Force LED Backlight Unit

The ERG *Smart Force Series* of LED backlight units are specifically designed for applications which require wide dimming and LCD brightness stability. The SF2R3734F is designed to provide backlighting for the NEC NL10276BC16-01 display.

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

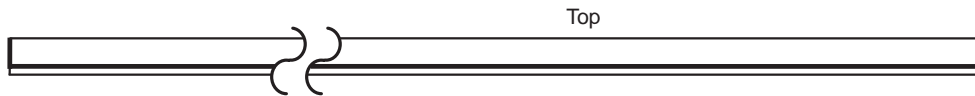
Input Connector

Molex J1
51021-0400

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

Package Configuration

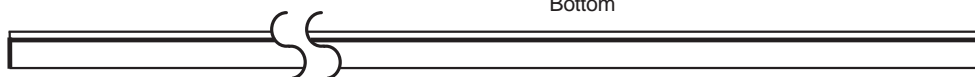
(shown without wires)



Top



Side



Bottom



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

**Absolute Maximum Ratings** ⁽¹⁾

| Rating | Symbol | Value | Units |
|--|-----------|-------------|-------|
| Forward Current ⁽²⁾ | I_F | 150 | mA |
| Pulse Forward Current ^{(2) (3)} | I_P | 300 | mA |
| Component Surface Temperature | T_s | -40 to +130 | °C |
| Storage Temperature | T_{stg} | -40 to +80 | °C |

Maximum Recommended Operating Conditions

| Rating | Symbol | Value | Units |
|--|--------|-------------|-------|
| Forward Current ^{(4) (5)} | I_F | 100 | mA |
| Pulse Forward Current | I_P | 200 | mA |
| Component Surface ⁽⁵⁾ 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 | 3.2 | V |
| String voltage | V_S | - | 31.9 | 35.2 | V |

Specifications subject to change without notice.

- (1) Operation above maximum recommended operating conditions will require thermal management actions and will decrease LED lifetime.
- (2) Current is specified per string.
- (3) Maximum duty cycle is 50% for pulsed current drive at 200mA, pulse width ≤ 10 ms.
- (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 60,000 hour LED lifetime. (Lifetime is time to 70% Lumen maintenance)



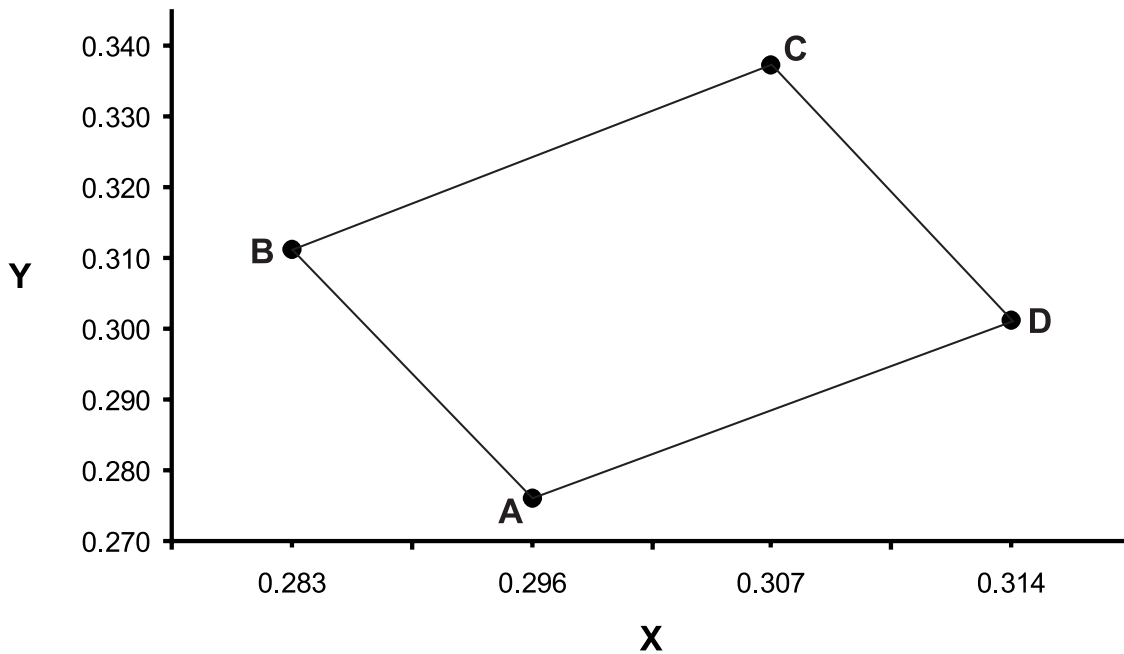
Backlight Chromaticity Coordinate Boundaries ⁽¹⁾

(Ta = 25°C)

| | A | B | C | D |
|---|-------|-------|-------|-------|
| X | 0.296 | 0.283 | 0.307 | 0.314 |
| Y | 0.276 | 0.311 | 0.337 | 0.301 |

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

CIE 1931 CHROMATICITY DIAGRAM



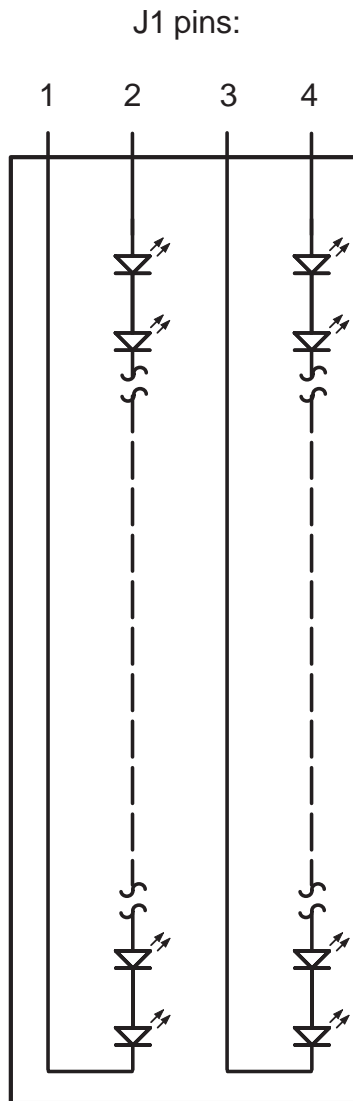


Figure 1
SFR Connectivity



Endicott Research Group, Inc. (ERG) reserves the right to make changes in circuit design and/or specifications at any time without notice. Accordingly, the reader is cautioned to verify that data sheets are current before placing orders. Information furnished by ERG is believed to be accurate and reliable. However, no responsibility is assumed by ERG for its use.