

1.8" Front Light Panel

12616-xx | Product Data Sheet | 2020



For more information:

WEB flexlighting.com

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Overview

The **FLEX Front Light Panel** optical film is designed to laminate to the front surface of **Sharp reflective display (LSO18B7DH02)** to provide high quality on-demand display lighting. This thin plastic panel incorporates only a single LED which enables product designers to develop ultra-thin devices and minimize battery use.

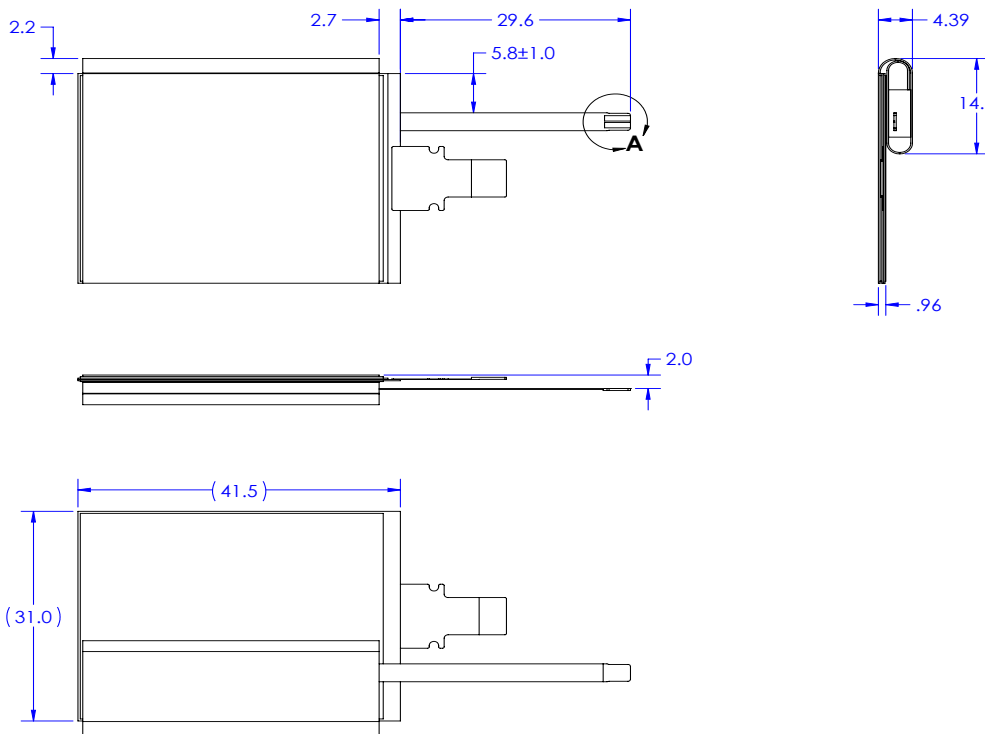
- One **low-power** LED (included in Front Light)
- Over **80x less power** compared to traditional backlighting
- 0.05 mm thick FLEX film is over **5x thinner** than alternative lightguides
- **Simple I/F** and **Connectivity** to System Board

SHARP

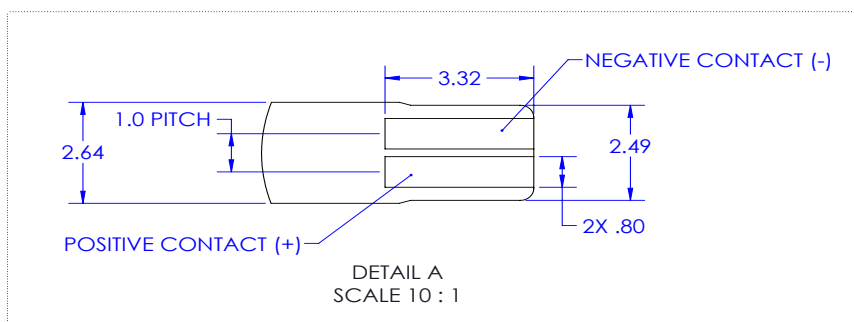
Approved

Value-Added Partner

Mechanical



PRELIMINARY



All dimensions in mm

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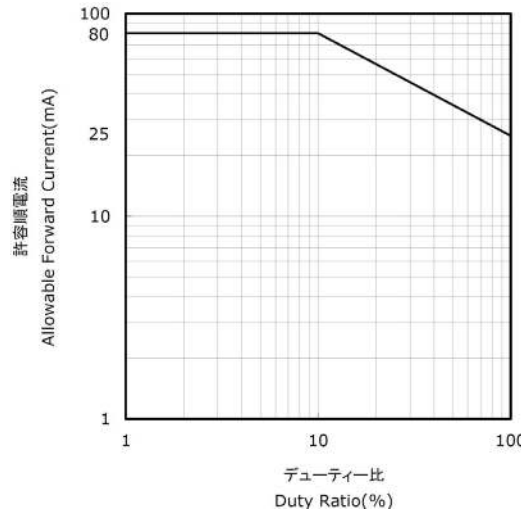
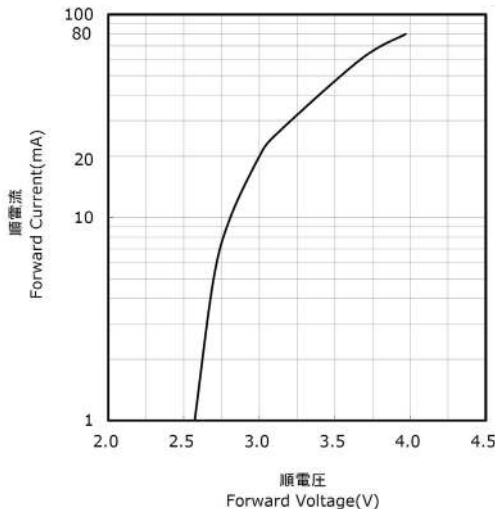
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Electrical

| Item | Symbol | Typical | Absolute Max | Unit |
|-----------------------|----------|---------|--------------|------|
| Forward Current | I_F | 5 | 25 | mA |
| Pulse Forward Current | I_{FP} | -- | 80 | mA |
| Reverse Voltage | V_R | -- | 5 | V |

Example ZIF Connectors:

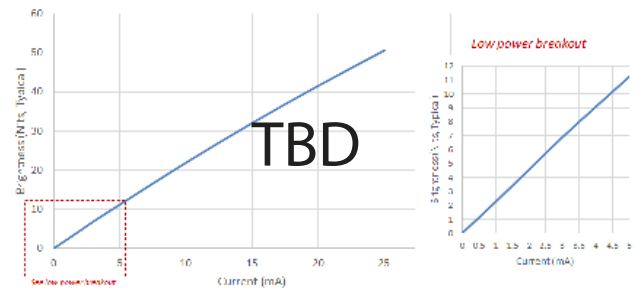
- Molex 503480-0400
- Molex 52745-0497
- Molex 54550-0471
- Molex 54548-0471 (bottom)
- Molex 505110-0492



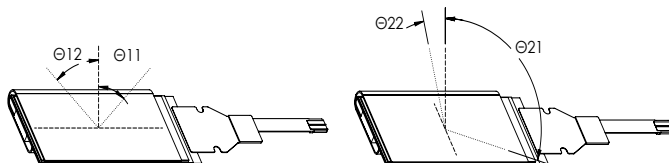
Optical

| 1.8" Sharp + Front Light (12616-xx) | | | | | |
|-------------------------------------|----------------|----------------------------|----------|------------|------------|
| Item | Symbol | TYP. | Unit | Remark | |
| Viewing Angle CR > 2 | V | $\Theta 11$ $\Theta 12$ | 60 30 | ° (Degree) | [Remark 1] |
| | H | $\Theta 21$ $\Theta 22$ | 65 65 | ° (Degree) | |
| Contrast Ratio | Front light ON | CR | 14 | -- | [Remark 2] |

Brightness vs. Power



Remark 1: Viewing Angle



Remark 2: Definition of Contrast Ratio

$$\text{Contrast Ratio (CR)} = \frac{\text{Reflection intensity in white display}}{\text{Reflection intensity in black display}}$$

Measurements taken with a Minolta Chroma Meter CS-100 at a 17" view distance