

3.2" Front Light Panel



12222-01 | Product Data Sheet | 2018

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 (LS032B7DD02)** 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.

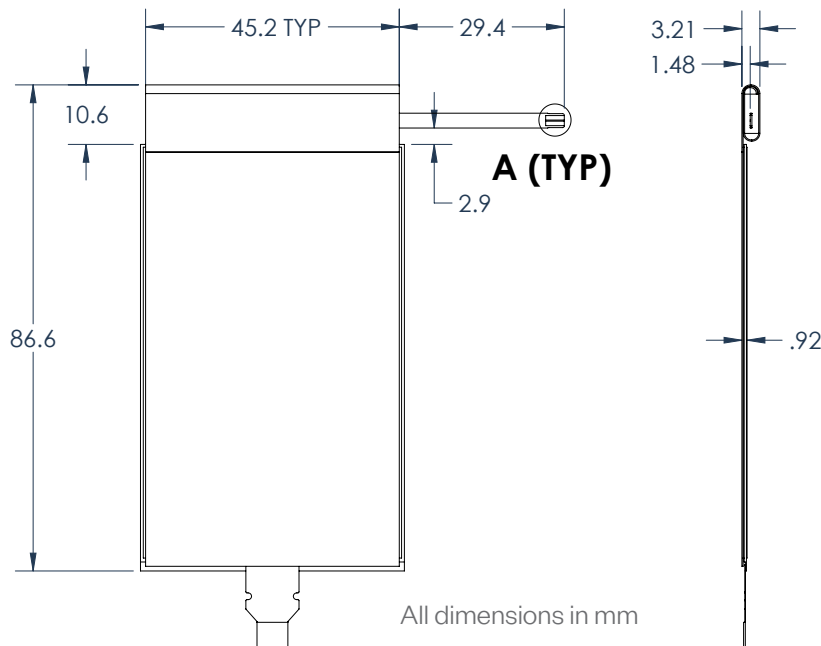
- One **low-power** LED (included in Front Light)
- Over **80x less power** compared to traditional backlighting
- 0.05 mm thick FLEX film is over **5x thinner** than alternative lightguides

SHARP

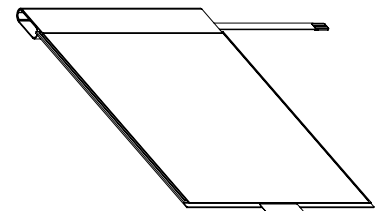
Approved

Value-Added Partner

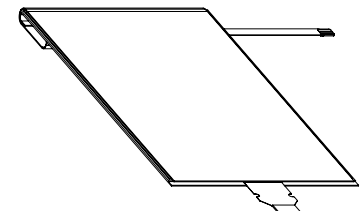
Mechanical



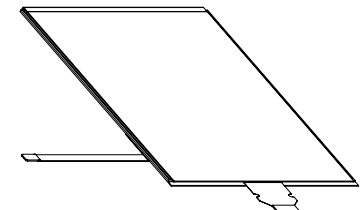
Flexible film allows for different placement options for the light source (examples below)



12222-01

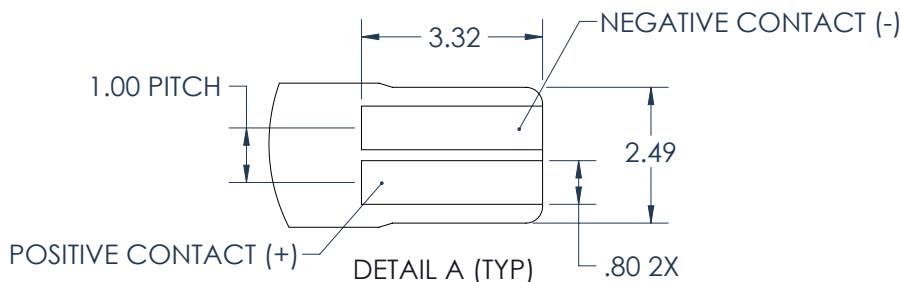


12222-03



12222-06
PRELIMINARY

12222-01
IN PLANE



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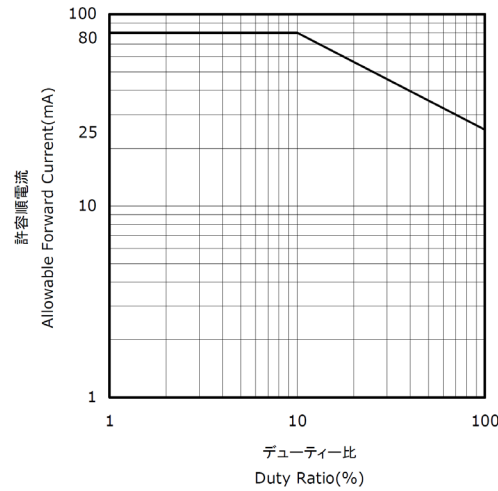
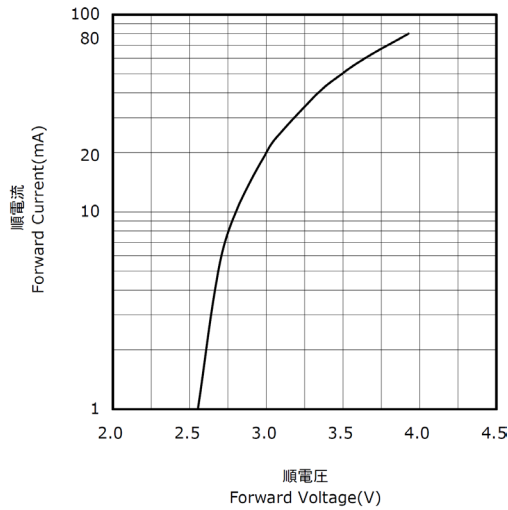
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Electrical

| Item | Symbol | Typical | Absolute Max | Unit |
|-----------------------|----------|---------|--------------|------|
| Forward Current | I_F | 10 | 25 | mA |
| Pulse Forward Current | I_{FP} | -- | 80 | mA |
| Reverse Voltage | V_R | -- | 5 | V |

Example ZIF Connectors:

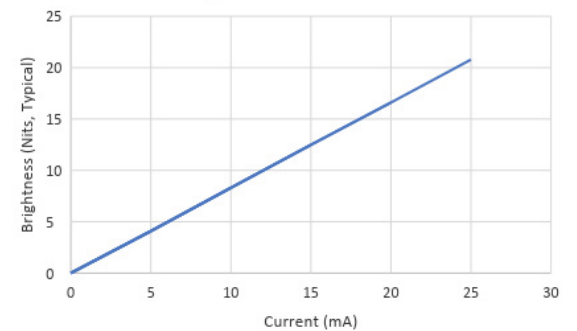
- Molex 503480-0400
- Molex 52745-0497
- Molex 54550-0471
- Molex 54548-0471 (bottom)
- Molex 505110-0492



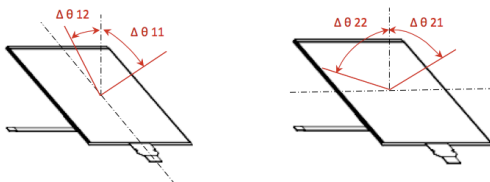
Optical

| 3.2" Sharp + Front Light (12222-01) | | | | | |
|-------------------------------------|----------------|--------------------------------|------|------------|------------|
| Item | Symbol | TYP. | Unit | Remark | |
| Viewing Angle CR > 2 | V | Θ_{11} Θ_{12} | -- | ° (Degree) | [Remark 1] |
| | H | Θ_{21} Θ_{22} | -- | ° (Degree) | |
| Contrast Ratio | Front light ON | CR | 9 | -- | [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