3.2” Front Light Panel

LS032B7DD02 | Product Data Sheet | 2017

For more information:
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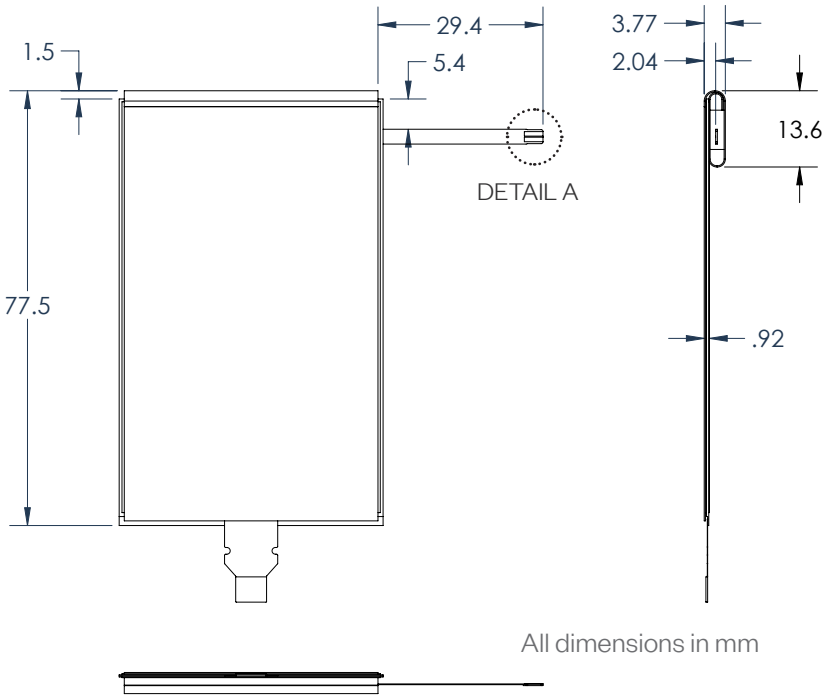
Overview

The FLEx Front Light Panel optical film is designed to laminate to the front surface of reflective displays 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

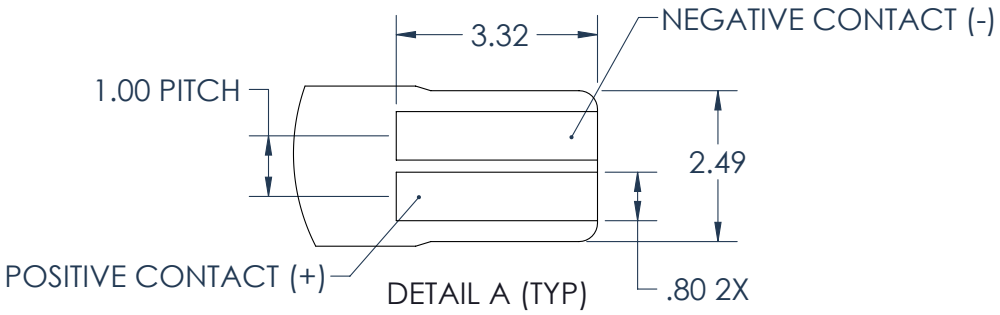
SHARP
Approved
Value-Added Partner

Mechanical

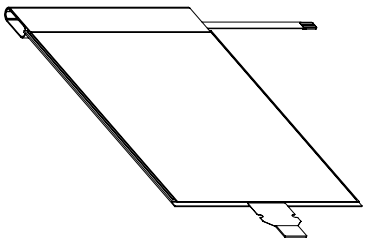


All dimensions in mm

12222-03
UNDER DISPLAY



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



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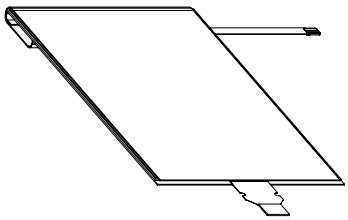

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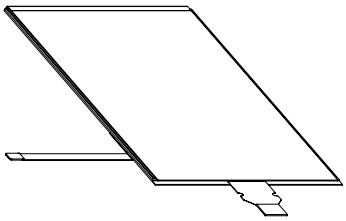

12222-06
PRELIMINARY

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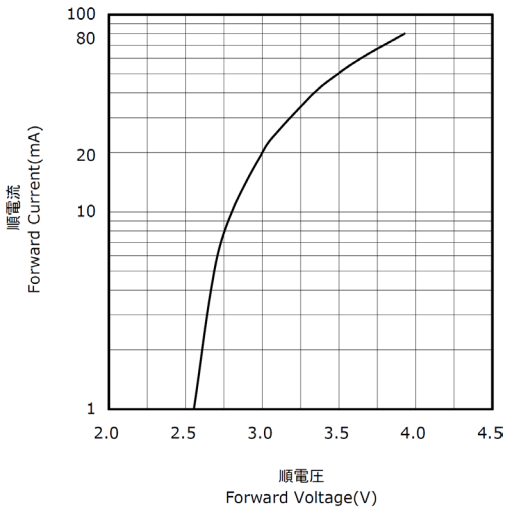
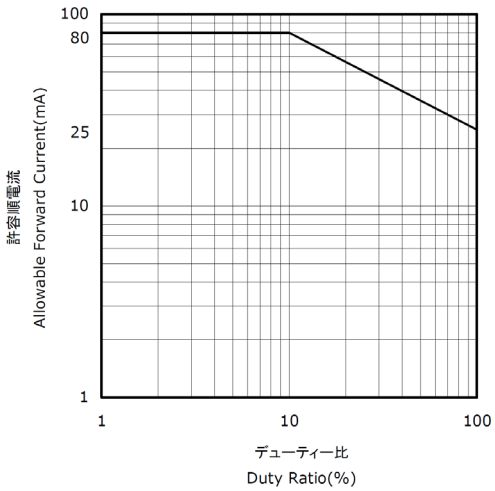
Electrical

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

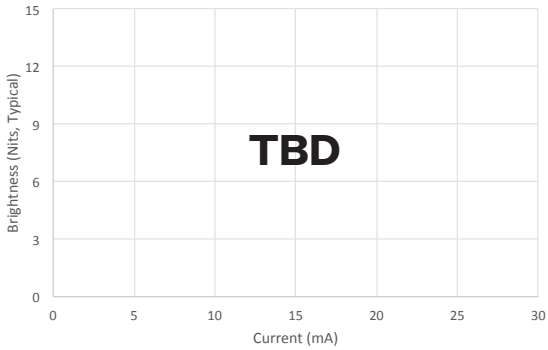




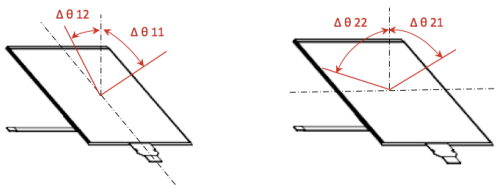
Optical (PRELIMINARY)

3.2” Sharp + Front Light (12222-06)					
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

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