1.28” (Color) Front Light Panel

12378-xx | Product Data Sheet | 2020

For more information:

WEB flexlighting.com

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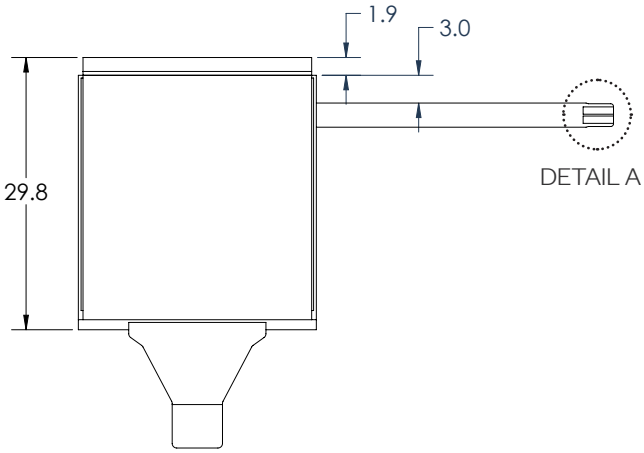
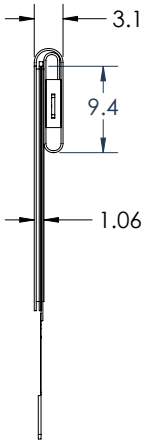
Overview

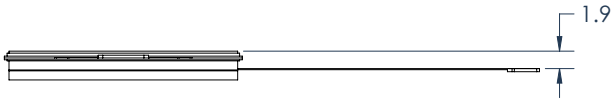
The **FLEx Front Light Panel** optical film is designed to laminate to the front surface of JDI reflective display (LPM013M126C) to provide high quality on-demand display lighting. This thin plastic panel incorporates only a single LED which enables product designers to develop ultra-thin devices and 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

Mechanical



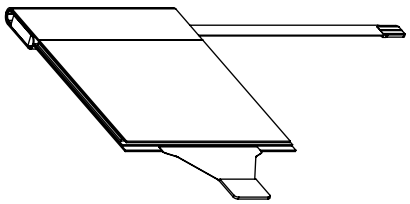




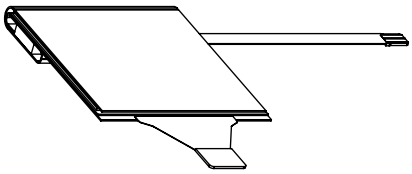
12378-03
UNDER DISPLAY

All dimensions in mm

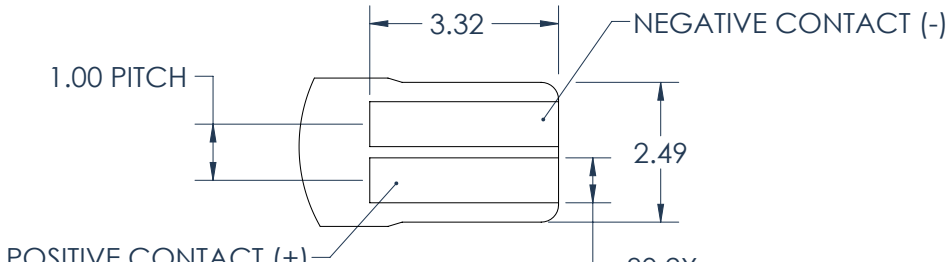
Flexible film allows for different placement options for the light source (examples below)



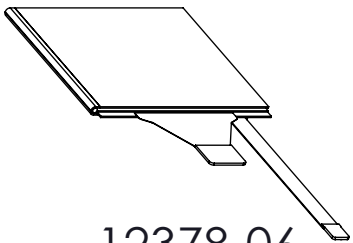
12378-01



12378-03



DETAIL A (TYP)
SCALE 10 : 1



12378-06
PRELIMINARY

Document Number: 12372-01_T5

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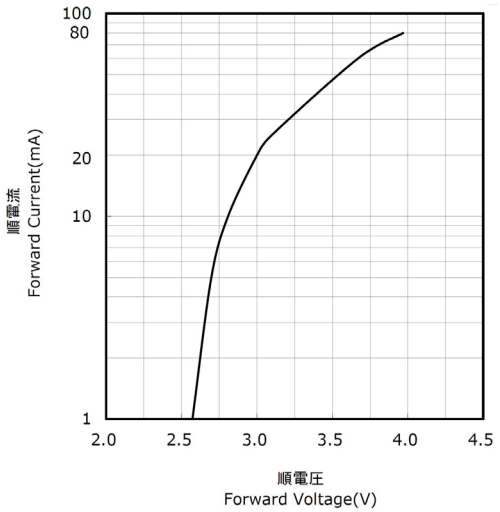
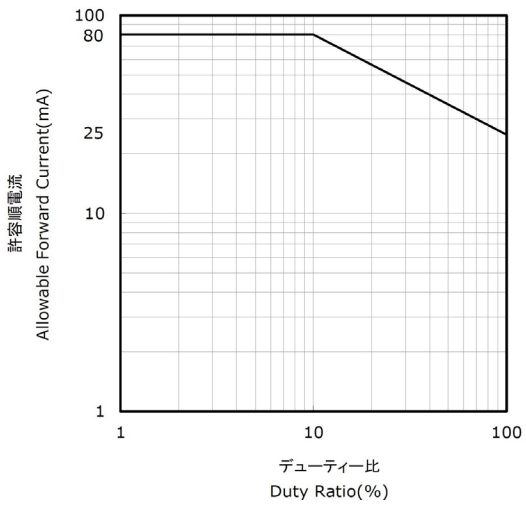
Electrical

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





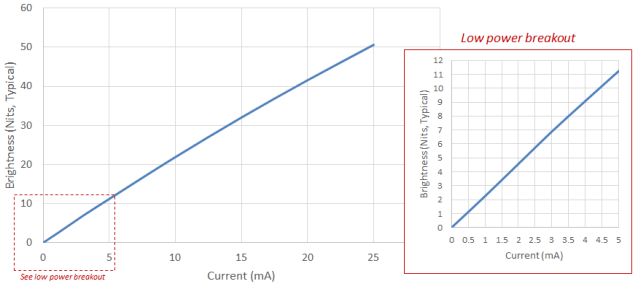
Example ZIF Connectors:

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

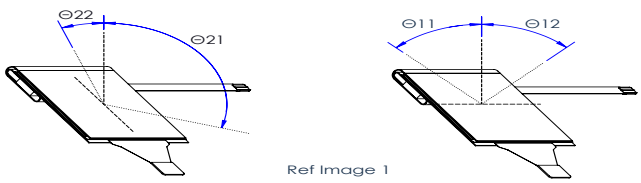
Optical

1.28” JDI + Front Light (12378-xx)					
Item		**Symbol**	**TYP.**	**Unit**	**Remark**
Viewing Angle CR >2	V	Θ 11 Θ 12	60 30	° (Degree)	[Remark 1]
	H	Θ 21 Θ 22	65 65	° (Degree)	
Contrast Ratio	Front light ON	CR	14	--	[Remark 2]

Brightness vs. Power



Remark 1: Viewing Angle



Ref Image 1

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

Document Number: 12372-01_T5